EXTRACOUNTY MOCKS

KCSE COMPLIANT-2022

Class of KCSE March 2022

For Marking Schemes Call Mr Machuki 0795491185.

Kenya Educators Contacts:

+254795491185

kenyaeducators@gmail.com

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EXTRACOUNTY MOCKS
MATHEMATICS
PAPER 1

Name …….. Admission No. _____Signature ……
Date _____

Kenya Certificate of Secondary Education

MATHEMATICS
PAPER 1
2 ½ HOURS

INSTRUCTIONS TO DANDIDATES

1. Write your name, index number and class.
2. The paper contains two sections: Section I and II
3. Answer ALL questions in section I and ONLY FIVE questions from section II.
4. All working and answers must be written on the question paper in the spaces provided below each question.
5. Marks may be awarded for correct working even if the answer is wrong.
6. Negligence and slovenly work will be penalized.
7. Non-programmable silent electronic calculators and mathematical tables are allowed for use.
8. **This paper consists of 15 printed pages. Candidates should check to ensure that all pages are printed as indicated and no questions are missing**

FOR EXAMINER'S USE ONLY

SECTION 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	TOTAL

GRAND TOTAL

SECTION II

17	18	19	20	21	22	23	24	TOTAL

SECTION 1 (50 Marks)
Answer ALL questions from this section

1. Evaluate: $\frac{\frac{1}{2} of\ 18 \div -3 + 2\frac{1}{2} \times \frac{3}{-5}}{\frac{1}{2} + 3\frac{3}{4} \div \frac{3}{4}}$ (3 marks)

2. The straight line joining the points P (a, 7) and Q (13, a) is parallel to the line whose equation is $3y + 2x = 9$. Find the value of a. (3 marks)

3. Solve the following inequalities and represent the solution on a number line and hence state the integral values of x
$7x - 4 \leq 9x + 2 < 3x + 14$ (4 marks)

4. The gradient of curve at any point is given by $2x - 1$. Given that the curve passes through point (1, 5), find the equation of the curve. (3 Marks)

5. Solve for x in the equation. (3 marks)

$$\frac{81^{2x} \; x \; 27^{x}}{9^{x}} = 729$$

6. The GCD of 6480, 7200 and a third number is 144. The L.C.M of the three numbers is $2^5 \times 3^5 \times 5^2 \times 7^3$. Find the smallest third number. (3 marks)

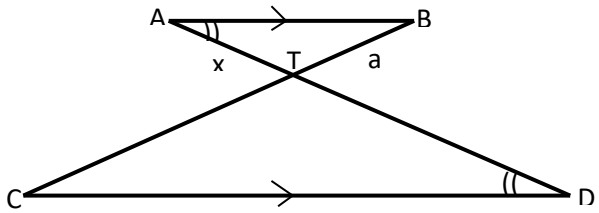
7. Mr. Waweru needs to import a car from Japan where cost is USD 5000 outside Kenya. He intends to buy the car through an agent who deals in Japanese yen. The agent will charge him 20% commission on the price of the car and further 80,325 Japanese yen for shipment of the car. How much Kenya shillings will he need to send to the agent to obtain the car given that?
1USD = 105.00 yen and 1USD = KSh. 63.00 (3 marks)

8. Use tables of reciprocals only to find the value of

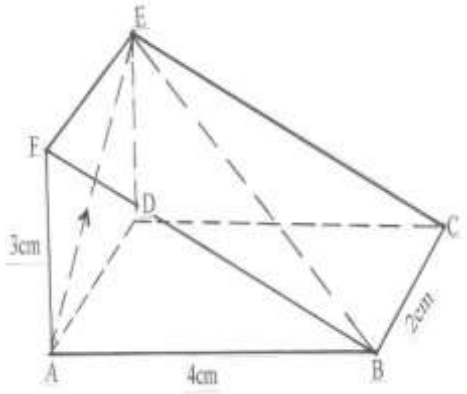
$$\frac{5}{0.0829} - \frac{14}{0.581}$$

(3 marks)

9. The figure below AB//CD, AD and BC intersect at T. Given that AT:TD = 1:3 and CB = 12cm. Calculate the length of TB. (3 marks)



10. Draw the net of the solid shown below. (3 marks)



11. The figure below shows a histogram. (3mks)

7.5 9.5 11.5 15.5 21.5

Length in x cm

Fill in the table below the missing frequencies.

Length in x cm	Frequency
7.5≤ x ≤ 9.5	12
9.5≤ x ≤ 11.5	
11.5≤ x ≤ 15.5	
15.5≤ x ≤ 21.5	

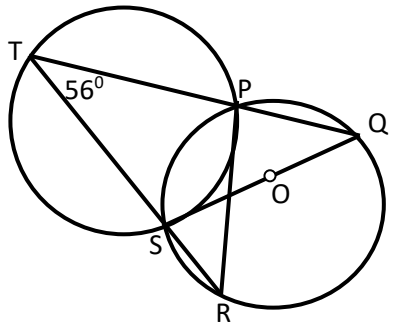
12. Solve for x: $(\log_2 x)^2$-$Log_2\ x^3 = 4$ (4 marks)

$(\log_2 x)^2)$

13. Mutua bought 8 pairs of trousers and six shirts at Sh. 4160. Had he bought twice as many shirts and half as many trousers, he would have saved Sh. 160. Find the cost of each item. (3 marks)

14. Two containers have base area of $750cm^2$ and $120cm^2$ respectively. Calculate the volume of the larger container in litres given that the volume of the smaller container is $400cm^3$.
(3 marks)

15. In the figure below O is the centre of circle PQRS. $\angle PTS = 56^0$ and $\angle PQS = 28^0$ and TPQ is a straight line.



Find: (a) $\angle TSP$ (2mark)

(b) $\angle PRQ$ (1 mark)

16. Simplify the following expression. (3 marks)

$$\frac{x-3}{x+3} - \frac{3x-9}{x^2-9}$$

SECTION II (50 marks)

17. Three partners Mutua, Muthoka and Mwikali contributed Sh. 600,000, Sh. 400,000 and Sh. 800,000 respectively to start a business of a matatu plying Mbumbuni – Machakos route. The matatu carries 14 passengers with each paying Sh. 250. The matatu makes two round trips each day and ever full. Each day Sh. 6000 is used to cover running costs and wages.

(a) Calculate their net profit per day. (2 marks)

(b) The matatu works for 25 days per month and is serviced every month at a cost of KSh.10, 000. Calculate their monthly profit in June. (1 mark)

(c) The three partners agreed to save 40% of the profit, 24% to be shared in the ratio of their contribution. Calculate Muthoka's share in the month of July (4 marks)

(d) The matatu developed mechanical problems and they decided to sell it through an agent who charged a commission of 5% on selling price. Each partner received KSh. 475,000 from the agent after he had taken his commission. Determine the price at which the agent sold the matatu. (3 marks)

18. The income tax rates in a certain year are as shown below.

Income (k£ – p.a	Rate (KSh. per £)
1 – 4200	2
4201 – 8000	3
8001 – 12600	5
12601 – 16800	6
16801 and above	7

Omar pays Sh. 4000 as P.A.Y.E per month. He has a monthly house allowance of KSh.10800 and is entitled to a personal relief of KSh. 1,100 per month. Determine:

(i) his gross tax per annum in Kshs (2 Marks)

(ii) his taxable income in K£ per annum (2 marks)

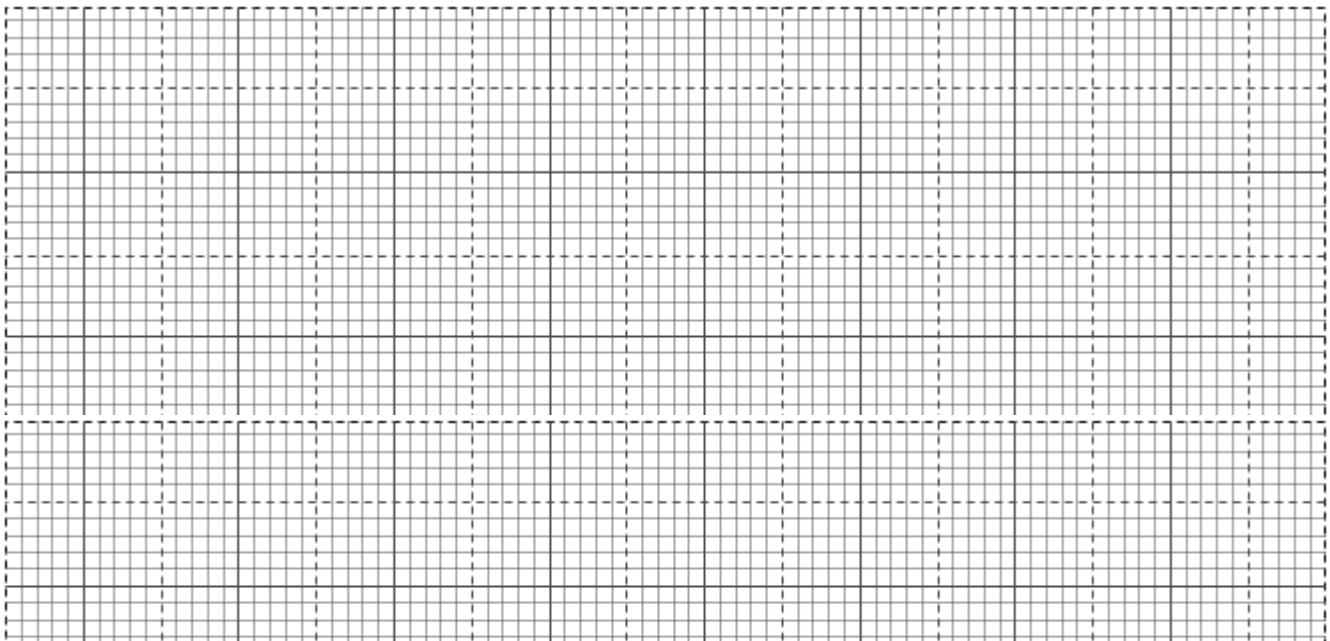
(iii) his basic salary in Ksh. per month. (2marks)

(iv) his net salary per month (2 marks)

19. (a) (i) Fill the table below for the function.
$y = 2x^2 + 5x - 12$ for $-8 \leq x \leq 4$ (2 marks)

x	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4
$2x^2$	98				18				2			32
5x	-35				-15				5			20
-12	-12				-12				-12			-12
y	51				-9				-5			40

(ii) Using the table, draw the graph of the function $y = 2x^2 + 5x - 12$. Use the scale 1cm to 1 unit on the x-axis and 1cm for 10 units for the y – axis (4 marks)

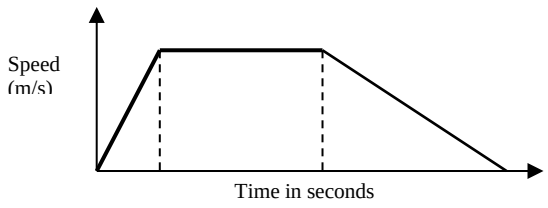


(b) Use the graph drawn above to solve the following equations.

(i) $2x^2 + 5x - 12 = 0$ (2 marks)

(ii) $3 - 7x - 3x^2 = 0$ (2 marks)

20. The diagram below shows the speed-time graph for a bus travelling between two stations. The bus begins from rest and accelerates uniformly for 30 seconds. It then travels at a constant speed for 60 seconds and finally decelerates uniformly for 40 seconds.



Given that the distance between the two stations in 2090m. Calculate

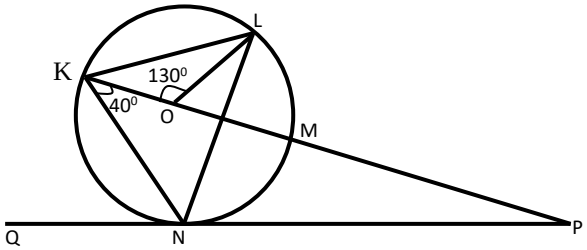
(a) The maximum speed, in km/h the bus attained (3 Marks)

(b) The acceleration (2 Marks)

(c) The distance travelled during the last 20 seconds (2 Marks)

(d) The time the bus takes to travel the first half of the journey (3 Marks)

21. In the figure below, K,L,M and N are points on the circumference of the circle centre O. The points K,
O, M and P are on a straight line. PN is tangent to the circle at N. $\angle KOL = 130^0$ and $\angle MKN = 40^0$.



Stating the reason in each case, find the values of the following angles,
(a) MLN (2 marks)

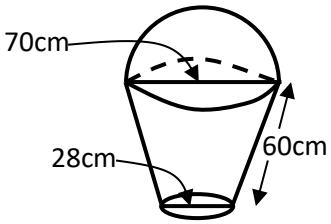
(b) OLN (2 marks)

(c) LNP (2 marks)

(d) MPN (2 marks)

(e) KNQ (2 marks)

22. The figure below shows a model of a solid in the shape of a frustum of a cone with a hemispherical top.



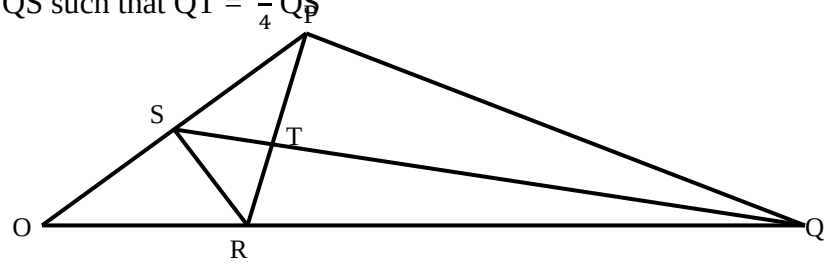
The diameter of the hemispherical top is 70cm and is equal to the diameter of the top of the frustum. The frustum has a base diameter of 28cm and a slant height of 60cm.

(a) Calculate the area of the hemispherical surface. (1mark)

(b) Calculate the slant height of the cone from which the frustum was cut. (4marks)

(c) Calculate the total surface area of the mode. (5 marks)

23. The figure below shows triangle OPQ in which OS = $\frac{1}{3}$ OP and OR = $\frac{1}{3}$ OQ. T is a point on QS such that QT = $\frac{3}{4}$ QS



(a) Given that OP = p and OQ = q, express the following vectors in terms of p and q.
(i) $\underset{\sim}{SR}$ (1 Mark)

(ii) $\underset{\sim}{QS}$ (2 Marks)

(iii) $\underset{\sim}{PT}$ (2 Marks)

(iv) $\underset{\sim}{TR}$ (2 Marks)

(b) Hence or otherwise show that the points P, T and R are collinear. (3 Marks)

24. The displacement S metres of a body moving along a straight line after t seconds is given by $S = -2t^3 + \frac{3}{2}t^2 + 3t$

(a) Find its initial acceleration. (3 marks)

(b) Calculate:-

(i) The time when the body was momentarily at rest. (3 marks)

(ii) Its displacement by the time it comes to rest momentarily (2 marks)

(c) Calculate the maximum velocity attained (2 marks)

EXTRACOUNTRY MOCKS

MATHEMATICS

PAPER 2

NAME:…….ADM NO:…… CLASS……

SIGNATURE:…….. DATE:……..

Kenya certificate of Secondary School-
Mathematics
Paper 2
2 ½ hours

Instructions to candidates

1.Write your name and index number in the spaces provide above
2.Sign and write the date of examination in the spaces provided above
3.This paper consists TWO section:Section I and Section II.
4.Answer all the Questions in Section I and Five questions from Section II.
5.All answers and workings must be written on this paper.

For Examiners use only
Section I

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total

Section II

17	18	19	20	21	22	23	24	Total

GRAND TOTAL

SECTION 1 : 50 MKS

1. Use logarithm tables only, giving your answer corrected to three significant figures ; to evaluate (4mks)

$$\frac{(0.5249)^2 \times 83.58}{\sqrt[3]{0.3563}}$$

2. Make K the subject of the formula. (3mks)

$$n = \frac{2x}{g}\sqrt{\frac{H-K}{3y}}$$

3. Solve for θ in radians given. (3mks)
   $2 \cos 2\theta + 1 = 0$ for $0 \leq \theta \leq 2\pi^C$

4. Atieno was asked to round off $4\frac{7}{15}$ to 3 decimal places but she truncated it instead to 3 decimal places. Calculate.

   Her percentage error resulting from the misunderstanding. (3mks)

5. Ketepa tea worth Ksh 40 per kg is mixed with Sasini tea worth Ksh 60 per Kg in the ratio 3:1 . In what ratio should this mixture be mixed with Kericho tea worth Ksh 50 per kg to produce a mixture worth Kshs 47 per kg. (3mks)

6. Calculate the length of a chord which is 3cm from the centre of the circle with radius 5cm. . (3mks)

7. The position vectors of point A and B are **a**= -2i+j-8k and **b**= -3i+2j-2k respectively . Find the magnitude of **AB.** (3mks)

8. Without the use of a calculator or mathematical tables, simplify. (3mks)

$$\frac{\text{Sin } 330^0 + \text{Cos } 120^0}{\text{Tan } 60^0 + \text{Cos } 240^0}$$

9. The cash price of a music system is Ksh 30000. It can be bought under hire purchase terms by paying a deposit of ksh 10,000 and twelve monthly instalment of Ksh 3200 per month. Determine the percentage rate of interest per month. (3mks)

10. Given that the coefficient of x^3 in the expansion $(a+\frac{x}{2})^4$ is 1

    a) Find the value of a (2mks)

    b) Hence write down the first four terms of $(a+\frac{x}{2})^4$ (2mks)

11. The image of a scalene triangle under the transformation given by the matrix $\begin{pmatrix} x+1 & 1 \\ 2 & x \end{pmatrix}$ is a straight line. Find the possible value of x (3mks)

12. Use the mid ordinate rule to estimate the area bounded by the curve $y+x^2 = 4$ and the line $y = 0$ using four strips . (3mks)

13. State the centre and radius of the circle given by the following equation.

$(x-4)^2 + (y+2)^2 - 4 = 0$ (2mks)

14. A ——————————————————— B

8cm

Use the line AB above to construct rectangle ABCD with BC = 5cm . A region R moves inside the rectangle under the following conditions

i) It is always nearer to AB than AD

ii) and always at least 3cm from point B

Locate R by shading the region. (3mks)

15. The probability that John misses lunch at school is ¾ . If he misses lunch , the probability that he dozes off during the afternoon lessons is 4/7 . Otherwise his probability of dozing off in the afternoon is ½ .

a) Illustrate the probabilities using a tree diagram. (1mk)

b) Calculate the probability that John does not doze off during the afternoon lessons. (2mks)

16. The first 4 terms of a G.P are 4,8,16,32

a) Find the common ratio (1mk)

b) Calculate the sum of the first 8 terms of the G.P (2mks)

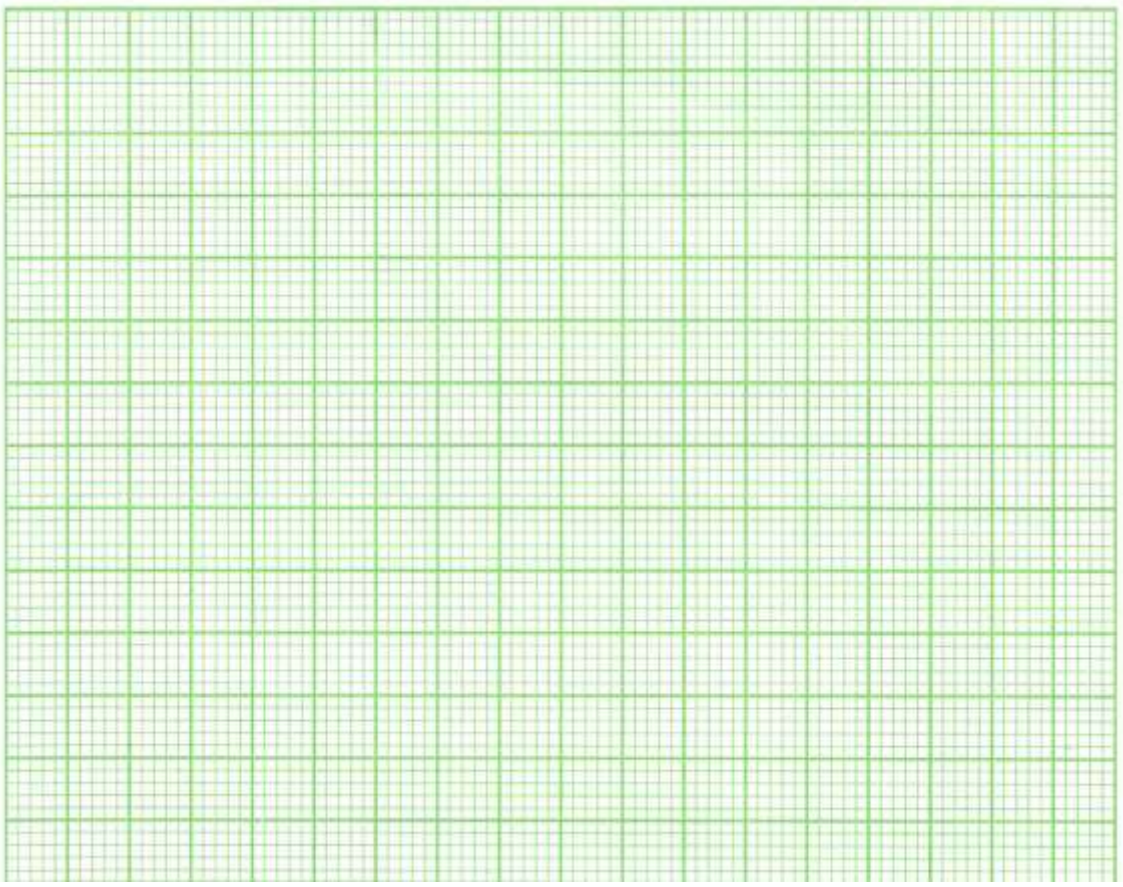
SECTION II

Answer only five questions

17. a) Complete the table below for the function y = 2 Cos 3x (2mks)

x	0^0	10^0	20^0	30^0	40^0	50^0	60^0	70^0	80^0	90^0	100^0	110^0	120^0
Cos 3x	1.000	-	0.5000		- 0.5000		- 1.0000	- 1.8660			0.5000		1.0000
y	2.00		1.00		-100		-2.00	-1.73			1.00		2.00

b .i) Using the values in the completed table, draw the graph of y=2 Cos 3x for $0^0 \leq x \leq 120^0$ on the grid provided.



ii) Using the graph, solve the equation. 2 Cos 3x=0 (3mks)

c) State the amplitude and period of the graph of y= 2 Cos 3x. (2mks)

18. Muma is standing 10 Km from a point P which is due North from her. She walks on a straight on a bearing of 030^{0}. By calculation, find

a.) How far will she have walked when she is equidistant from her starting point and P. (2mks)

b.) What is the bearing of P from this equidistant point. (2mk)

c.) How far will Muma have walked when she is at the shortest distance from the point p. (2mks)

d.) How far will the point P be from Muma when she walked 20 Km on the same straight path. (4mks)

19. The height of a number of orange trees in an orchard were measured to the nearest (cm) and recorded in the table below.

Height (cm)	Frequency
131 - 140	13
141 – 150	23
151 – 160	36
161 – 170	50
171 – 180	35
181 – 190	28
191 - 200	15

Using an assumed mean of 165.5, calculate

a) The mean height (3mks)

b) The standard deviation of the distribution (4mks)

c) The quartile deviation (3mks)

20. The points A (5,-1) B (1,-2) and C (x ,y) of a triangle are mapped onto A^1 (1,5) B^1(2,1) and C^1 (4,2) by a matrix **N** = $\begin{pmatrix} a & b \\ c & d \end{pmatrix}$. Find

a) Matrix **N** of the transformation. (4mks)

b) Co-ordinates of C (2mks)

c) A" B" C" are the image of A' B'C' under a transformation represented by matrix **M** = $\begin{pmatrix} 2 & -1 \\ 0 & 0 \end{pmatrix}$.

Write down the co-ordinates of A" B" C" (2mks)

d) A transformation **N** followed by **M** can be represented by a single transformation **K**. Determine K (2mks)

21. A ship left port A (11^0 N, 32^0 W) and sailed due west to another port B. The journey took 160 hours at an average speed of 28 knots. Given that radius of the earth is 6370km and $\pi = {}^{22}/_{7}$

a) Calculate the distance between A and B

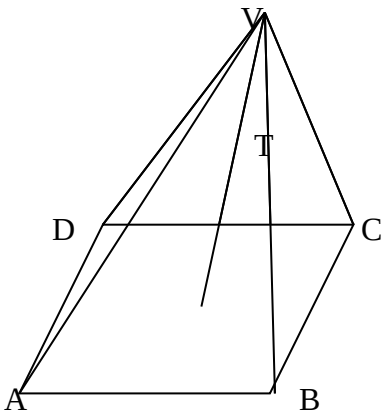
i) In nautical miles (2mks)

ii) In km (2mks)

b) Calculate the average speed of the ship in km/h correct to 2d.p (2mks)

c) Calculate to the nearest whole number the longitude of port B and hence state its position (4mks)

22.



The right pyramid above (not drawn to scale) has AB = 12 cm and BC = 16 cm. O is the centre of the base with OV = 15 cm.
Calculate, giving your answer to four significant figures.

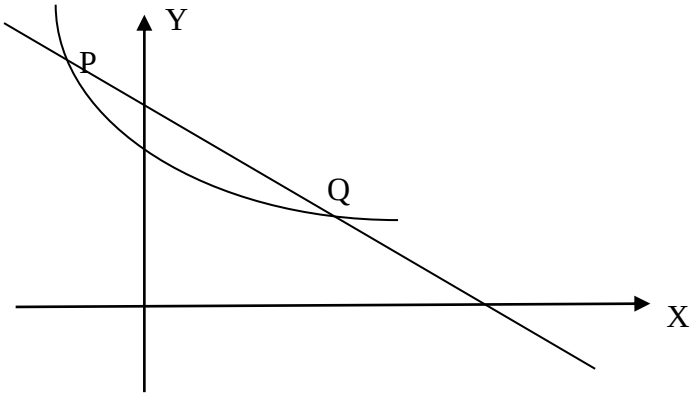
a) The length of the slant edge (2mks)

b) The angle between the lines VA and VC (2mks)

c) The angle between the plane ABV and the base ABCD (3mks)

d) The pyramid is chopped at point T to form a frustum such T divides OV in the ration 2:1. Find the volume of the frustum. (3mks)

23. The figure below shows the sketch of the curve $y = x^2 - 2x + 4$ and a straight line PQ which cuts the x-axis and the y-axis at the points (10, 0) (0, 10) respectively.
The line also intersects the curve at P and Q



Find.

a i.) The equation of the straight line in the form y = m x + c (2mks)

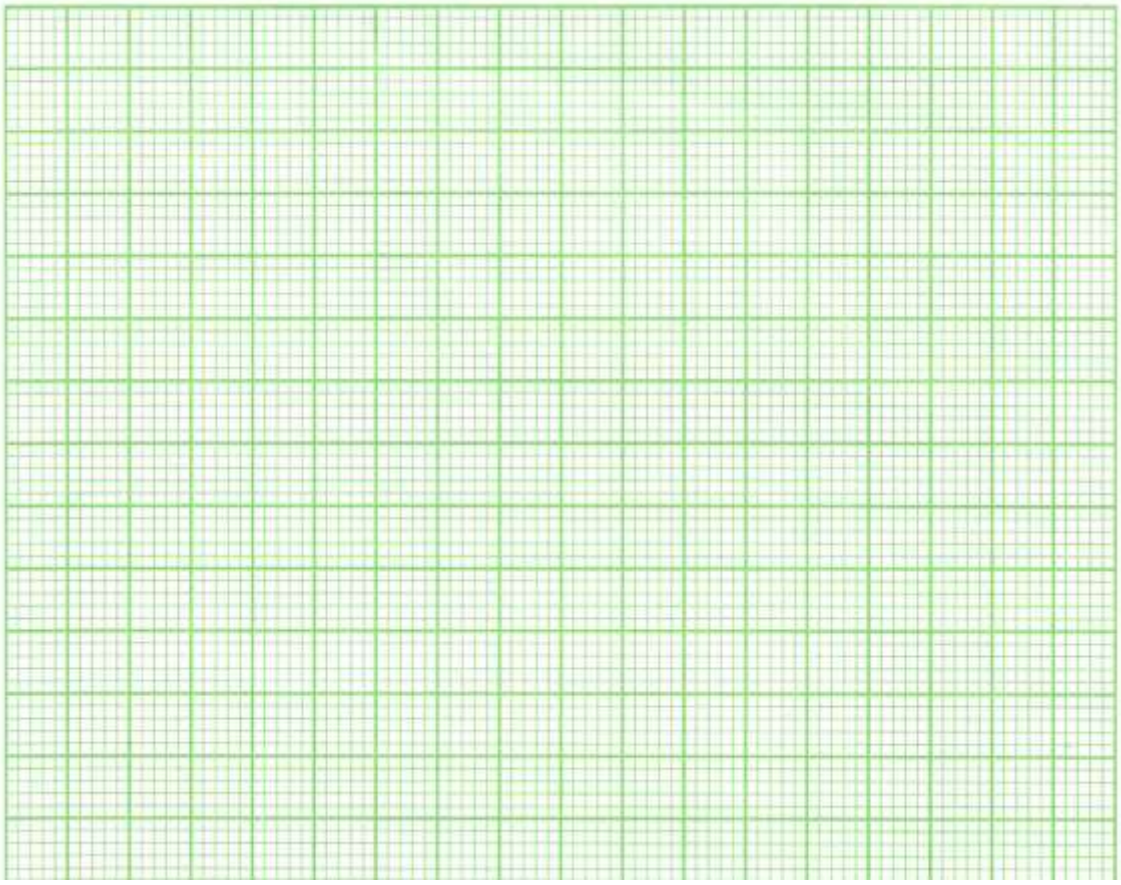
ii.) The co-ordinates of P and Q (4mks)

B Use integration to find the area of the shaded part. (4mks)

24. Owiti makes two types of dresses, A and B. He takes 3 hours to make one pair of type A and 4 hours to make one pair of type B. He works for a maximum of 120 hours to make x pairs of type A and Y pairs of type B. It costs him shs 400 to make a pair of type A and shs. 150 to make a pair of type B. His total cost does not exceed shs. 9000. He must make at least 8 pairs of type A and more than 12 pairs of type B.

a.) Write down four inequalities representing the above information. (4mks)

b.) On the grid provided, draw the inequalities and shade the unwanted region. (3mks)



c.) Owiti makes a profit of shs. 40 on each pair of type A and shs. 70 on pair of type B dresses. Use the graph in part (b) above to above determine the maximum possible profit he makes. (3mks)

EXTRACOUNTY MOCKS

ENGLISH

PAPER 1

Name……..Index No…….

Class…….....Date…….Sign……..

101/1
ENGLISH
Paper 1(Functional writing, cloze test and oral skills.)
2 Hours

INSTRUCTIONS TO CANDIDATES

1. Write your name, index number, class, date and signature in the spaces provided above.
2. Answer **all** the questions in this question paper.
3. All your answers **must** be written in the spaces provided in this question paper.
4. **This paper consists of 6 printed pages.**
5. Candidates should check the paper to **ascertain** that **all the pages** are **printed** as indicated and that no questions are missing.

For Examiner's use only

Question.	**Max. Score**	**Student's Score**
1. Functional Writing	**20**	
2. Cloze Test	**10**	
3. Oral Skills	**30**	
TOTAL SCORE	**60**	

1. FUNCTIONAL WRITING

You are youth leader in your estate. write the speech you would read during one of the political rallies on the role of the youth in maintaining peace during the campaign period

(20 marks)

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CLOZE TEST

2. Read the passage below and fill in each blank space with the most appropriate word.

(10 marks)

It is tough to be the only one who says" no" to peer pressure, but you can do it. (1)…….attention to your own feelings and beliefs about what is right and wrong can help you stand firm, walk away and (2)…….doing something when you know better. It can really help to have at least one other peer or friend who is (3)…….. to say no too. This takes a lot of power out of peer pressure and makes it much easier to resist. It is great to have friends with values (4)……to yours who will back you (5)…….when you don't want to do something.

You've probably heard a parent or teacher (6)…….you to 'choose your friends wisely'. Peer pressure is a big reason why they say this. Even if you are faced with peer pressure while you are alone, there are still things you can do. You can (7)……..stay away from peers who pressure you to do stuff you know is (8)…….. You can tell them no and walk away.

Better yet, find other friends (9)…….. Classmates to pal around with. If you continue to face peer pressure and you are finding it difficult to (10)……,talk to someone you trust.

3. ORAL SKILLS (30 Marks)

a) Read the following poem and then answer the questions that follow. (8marks)

I want to write a poem, but I don't know where to start.
Should it be an ode to love and come straight from the heart?
Or should it wax lyrical of sky and moon and stars,
or of planets of our universe Pluto, Jupiter, or Mars?

It could be of the flora or fauna of this, our wonderful land,
or of walking barefoot on a lonely beach kicking up the sand.
Of countries and of places where the surroundings seem so strange,
frozen lands, dense jungles, valleys deep and of vast mountain's range.

Rivers long, the life blood of lands they pass along their way,
irrigating crops and refreshing thirsts continually night and day.
Or of the sheer beauty of Mother Nature we can experience all around,

from the gigantic right down to microscopic, many wondrous things abound.

Maybe of the sadness felt when the highest price is paid,
be it that of unselfish sacrifice of life or whenever it is made.

(i) Identify the rhyme scheme of this poem? (2 marks)

……
……
……...

(ii) Using illustrations show how rhythm has been achieved in the poem. (3 marks)

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…….

(iii) Would you use a rising or falling intonation in reading line 3 in of this poem?

Give a reason. (1 mark)

……
……

(iv) How would you say the last line of the second last stanza? (2 marks)

……
……
……

b) Identify the odd one out from the following groups of words according to the pronunciation of the underlined sounds. (2 marks)

(i) Respect religion referee.....

(ii) Keys advise books.....

c) Molly has been invited by her friend to attend homecoming ceremony. She goes to the father to ask for permission to attend the party. However, her father turns down her request. What advice can you give her to improve on her negotiation skills? (3 marks)

.....
.....

.....
.....

d) Identify the silent letter(s) in the following words. (3 marks)

(i) Disciplinary .....
(ii) Glisten .....
(iii) Succumb .....

e) Read the short forms below and answer questions that follow.

I bought a boat because it was for sail

a) Classify the artefact above (1 Mark)

……
……..

b) Write the homophones of the following words evident in the artefact above. (1 mark)

i) Boat
……
……

ii) ii) Sale
……
……...

f) (i) Identify the two parts of the genre below. (2 marks)

Better three hours too soon than a minute too late.

……
……
……..

g) Explain the meaning that comes out when the underlined words in the sentence below are stressed. (3 marks)

(i) The <u>generous</u> man gave the poor girl school fees.
.....
(ii) The generous man gave the <u>poor</u> girl school fees.
.....
(iii) The generous man gave the poor girl <u>school fees.</u>
.....

h) After you delivered your points during a debate, everyone claped for you. How did you deliver your points to earn their applause? (3 marks)

.....
.....
.....

i) You are the Chairperson of a panel that is set to carry out an important interview.

(i) Explain briefly what you would do in preparation for this important occasion. (2 marks)

.....

.....

.....

(ii) What would you consider in selecting the most suitable interviewee? (2 marks)

.....

.....

.....

EXTRACOUNTY MOCKS

ENGLISH

PAPER 2

Name……. **Adm No……..**

Class ……

101/2
ENGLISH
Paper 2
(Comprehension, Literary Appreciation, Grammar)
2 ½ Hours

Kenya Certificate of Secondary Education (K.C.S.E)

INSTRUCTIONS TO CANDIDATES

1. **Write your name and the date in the spaces provided**
2. **Answer all the questions in this paper in the spaces provided**

For examiner's use only

Question	*Maximum*	*Score*
1	*20*	
2	*25*	
3	*20*	
4	*15*	
Total	*80*	

1. COMPREHENSION

Read the passage below and answer the questions that follow

The process of developing social skills among children at an early age is important. Researchers have cited rejection by peers as the greatest challenge children face in their quest to build meaningful social skills. It has been reported that children who get bullied and snubbed by peers are more likely to have problems in relating with others. In recent times, researchers have found at least three factors in a child's behaviour that can lead to social rejection. The factors involve a child's inability to pick up on and respond to nonverbal cues from their pals. In the United states 10 to 13 percent of school-going children experience some form of rejection by their peers. In addition to causing mental health problems, bullying and social isolation can increase the likelihood of a child getting poor grades, dropping out of school,, or developing substance abuse problems.

It is reported that the social skills that children gain on the playground or elsewhere could show up later in life, according to Richard Lavoie, an expert in child social behaviour. He says that children experiment with the relationship styles they will have as adults during unstructured playtime-when children interact without the guidance of an **authority figure.** Researchers say that the number-one need of any human is to be liked by other humans. However, researchers have expressed concern that our children are like strangers in their own land. They don't understand the basic rules of social behaviour and their mistakes are usually unintentional.

Children who face rejection may have problems in at least one of three different areas of nonverbal communication, which is the reason they are rejected. These are reading nonverbal cues; understanding their social meaning; and coming up with options for resolving a social conflict. A child, for example, simply my not notice a person's scowl of impatience or understand what a tapped foot means. In another situation, a child may have trouble reconciling the desires of a friend with her own. Anyone trying to help children on their social skills should try to pinpoint the weaknesses a child has and then build those up.

When children have prolonged struggles with socializing, "a vicious cycle begins," children who are **shunned** by others have few opportunities to practice social skills whereas popular children have more than enough opportunities to perfect theirs.

However, having just one or two friends can be enough to give a child the social practice he or she need.

Parents, teachers and other adults in a child's life can help, too. Instead of reacting with anger or embarrassment to a child who, say, asks Aunt Vera if her new hairdo was a mistake, parents should teach social skills with the same tone they use for teaching numeracy skills or proper hygiene.If presented as a learning opportunity, rather than a punishment, children usually appreciate the lesson. It is important to note that most children are so desperate to have friends that they **just jump on board.**

To teach social skills, Lavoie advises a five-step approach in his book. The process works for children with or without learning disabilities and is best conducted

immediately after a wrongdoing has been made. First, ask the child what happened and listen without judgment. Second, ask the child to identify their mistake. Often children only know that someone got upset, but don't understand their own role in the outcome. Third, help the child identify the cue they missed or mistake they made, by asking something like: "How would you feel if Emma was hogging the tyre swing?" Instead of lecturing with the word "should," offer options the child "could" have taken in the moment, such as "You could have asked Emma to join you or told her you would give her the swing after your turn. "Fourth, you can create an imaginary but similar scenario where the child can make the right choice. For example, you could say, "If you were playing with a shovel in the sand box and Aiden wanted to use it, what would you do?" Lastly, give the child" social homework" by asking him to practice this new skill, saying: "Now that you know the importance of sharing, I want to hear about something you share tomorrow."

(Adapted from livescience.com-Tue Feb 2, 2010)

Questions

a) In one sentence, explain what this passage is talking about? (2mks)

……

……

……

b) What is the number one need of any human being? (1mk)

……

……

c) What are cited as the causes for social rejection according to the passage (2mks)

……

……

……

d) What is social rejection likely to lead to (2mks)

……

……

……

e) What vicious cycle is referred to in this passage? (2mks)

……

……

……

f) How can a parent make children appreciate the lesson on social skills? (2mks)

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……

……

g) "How would you feel in Emma was hogging the tyre swing?" Re-write in reported speech. (1mk)

……

……

h) Make notes on the five-step approach to teach children social skills (5mks)

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i) Explain the meaning of the following words and phrases as used in the passage (3mks)

I. Authority figure

……

II. Shunned

……

III. Jump on board

……..

2. Read the excerpt below and then answer the questions that follow. (25 marks)

Mrs. Linde: Listen to me Nora you are still very like a child in many things, and I am older than you in many ways and have a little more experience. Let me tell you this-you ought to make an end of it with Doctor Rank.

Nora: What ought I to make an end to?

Mrs. Linde: Of two things I think. Yesterday you talked some nonsense about a rich admirer who was to leave you money-

Nora: An admirer who doesn't exist, unfortunately! But what then?

Mrs. Linde: Is Doctor Rank a man of means?

Mrs. Linde: And comes here every day?

Nora: Yes, I told you so.

Mrs. Linde: But how can this well-bred man be so tactless?

Nora: I don't understand you at all.

Mrs. Linde: Don't prevaricate, Nora.do you suppose I don't guess wholent you the two hundred and fifty pounds?

Nora: Are you out of your senses? How can you think of such a thing? A friend of ours, who comes here every day! Do you realize what a horribly painful position that? would be?

Mrs. Linde: Then it really isn't he?

Nora: No, certainly not. It would never have entered into my head for a moment. Besides, he had no money to lend then; he came into his money afterwards.

Mrs. Linde: Well I think that was lucky for you, my dear Nora.

Nora: No, it would never have come into my head to ask Doctor Rank. Although I am quite sure if I had asked him-

Mrs. Linde: But of course you won't.

Nora: Of course not. I have no reason to think it could possibly be necessary. But I am quite sure that if I told Doctor Rank-

Mrs. Linde: Behind your husband's back?

Nora: I must make an end of it with the other one, and that will be behind his back too, I must make an end of it with him.

Mrs. Linde: Yes, that is what I told you yesterday, but-

Nora: (walking up and down) a man can put a thing like that straight much easier than a woman.

Mrs. Linde: One's husband, yes.

Nora: Nonsense! (Standing still) When you pay off a debt you get your bond back, don't you?

Mrs. Linde: Yes, as a matter of course.

Nora: And can tear it into a hundred thousand pieces and burn it up- the nasty dirty paper.

Mrs. Linde: (looks hard at her, lays down her sewing and gets up slowly.) Nora you are concealing something from me.

Nora: Do I look as if I were?

Mrs. Linde: Something has happened to you since yesterday morning. Nora, what is it?

Questions

a) Briefly explain what happens before and after the events in this extract. (4marks)

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……

……

b) Explain why Mrs. Linde says "…I am older than you in many ways and have a little more experience? (2mrks)

……

……

……

c) What is Mrs. Lindes' view about Doctor Rank and Nora's relationship? (2marks)

……

……

……

d) From the dialogue, what do we learn about Nora's character? (4 marks)

……

……

……

……

e) Identify and explain the use of hyperbole in this excerpt. (3 marks)

……

……

……

……

f) What is the attitude of Mrs.Linde towards Nora (2mrks)

……

……

g) What is the prevailing in this excerpt (2mrks)

……

……

h) What does Mrs. Linde think Nora is concealing from her? Is Mrs. Lindes right? (3 marks)

……

……

……

……

i) Explain the meaning of the following words as used in the extract. (3 marks)

i) A man of

means

ii) Prevaricate

iii) nasty

3. Read the oral poem below and answer questions that follow (20mrks)

Is the chief greater than the hunter?
Arrogance! Hunter? Arrogance!
The pair of beautiful things on your feet,
The sandals that you wear,
How did it all happen?
It is the hunter that killed the duyker:
The sandals are made of hide of the duyker.

Does the chief say he is greater than the hunter?
Arrogance! Hunter? Arrogance!
The noisy train that leads you a way,
The drums that precede you,
The hunter killed the elephant,
The drum head is the ear of the elephant.
Does the chief say he is greater than the hunter?
Arrogance! Hunter? Arrogance!
(*Source: Akan Oral Literature*: Oral Literature in Africa *by Ruth Finnegan*)

Questions:

a. What occasion would be suitable for the performance of this oral material? **(2mrks)**

b. For what purpose has the speaker employed many questions in this poem?**(3mrks)**

c. How does the performer of this piece bring the superiority of the hunter?**(2mrks)**

d. 'Does the chief say is greater than the hunter?' What sense is created by this line being repeated?**(2mrks)**

e. Which distinguishing characteristics of oral song are discernible from this piece?**(3mrks)**

f. Give two other examples that can be classified with the one above. (**2mrks)**

g. Explain the meaning of this line:
Arrogance! Hunter? Arrogance! **(2mrks)**

h. How would you describe the attitude of the speaker in this poem towards the chief? **(2mrks**)

i. What mood would be prevalent during the performance of this poem? (2mrks)

4. GRAMMAR (15mrk

***(a)Rewrite the following sentences as instructed* :(2mrks)**

I. He ran away .He shouted as he ran.*(rewrite to end ….shouting)*

II. Kamau wrote an article. He posted it on the website. *(Join the sentence to begin: Having…)*

(b)Use the correct form of the verb in the brackets to fill in the blank spaces. (3mrks)

I. The dog _____on the mat.(lie)

II. Daily nation newspaper has a humongous_____.(read)

III. The victim said that the accident was_____ terrible.(explain)

(c)Fill the gaps with an appropriate preposition (3mrks)

I. Suddenly, the plane was enveloped_____ a dense fog.

II. Professor Wangari was an expert _____ conservation of environment.

III. The parents are answerable _____the behavior of their children

(d)Explain the difference in meaning between the following pairs of sentences (2mrks)

I. She went and bought herself a skirt.

II. She went and bought a skirt herself.

(e)Rewrite the sentences below according to the instructions given after each.(2mrks)

I. I thought they were thirsty. I gave them water.(rewrite using present participle phrase)

II. He sung so well that everyone was impressed. (Begin: so well…)

(f)In each case, give a phrasal verb that means the same as the word underlined.(3mrks)

I. The remorseful suspect confessed after a long interrogation.

II. Only irresponsible parents can abandon their children.

III. Safaricom Kenya has sacked most of its employees.

EXTRACOUNTY MOCKS

ENGLISH

PAPER 3

Name……. Index Number:…….…….....

School…….

Candidate's Signature……. Date……...……

ENGLISH

PAPER 3

TIME: 2HOURS

INSTRUCTIONS TO CANDIDATES.

1. Write your name, admission number, date and sign in the spaces provided for each.
2. Answer three questions. Answer only one question from each section.
3. All answers must be written in the answer sheet provided.
4. All your essays must not exceed 450 words or two pages of normal foolscap.
5. This paper has **2** pages only. Confirm that all the questions are printed as indicated.

Answer **three** questions only.

1. **Imaginative composition (Compulsory)** **(20marks)**

Either

a. Write a story starting with:

I regret allowing myself to follow my best friend's advice blindly….

Or

b) Write a composition explaining what the Government of Kenya should do to end the rising number of teenage pregnancies in schools.

2. Compulsory Set Text **(20marks)**

Blossoms of the Savannah by **H.R. Ole Kulet**

"Only women can liberate themselves in male dominated societies." Write an essay that examines the role of women in their own liberation basing your arguments on the novel.

3. The Optional Set Texts **(20marks)** **a. John Steinbeck, The Pearl** "Too much ambition leads to the suffering of Kino's Family." Using examples drawn from John Steinbeck's novel The Pearl, write an essay in support of this statement.

Or

b. Lidudumalingani Mqombothi's 'Memories We Lost'

"Understanding, love and care is all that patients suffering from mental illness need."

Or

c. David Mulwa's Inheritance

"What goes around comes around." Using illustrations from the play, Inheritance by David Mulwa, justify this statement.

EXTRACOUNTY MOCKS

KISWAHILI

PAPER 1

Jina:……Namba:……..Mkondo:……..

101/2

KISWAHILI

Karatasi Ya 1

INSHA

Muda: Saa 1 ¾

Hati Ya Kuhitimu Kisomo Cha Sekondari

MAAGIZO

- Andika insha mbili. Insha ya kwanza ni ya lazima.
- Kisha chagua insha nyingine moja kati ya hizo tatu zilizobakia.
- Kila insha isipungue maneno 400.
- Kila insha ina alama 20.
- Kila insha lazima iandikwe kwa lugha ya Kiswahili.
- Karatasi hii ina ukurasa 2 zilizopigwa chapa.
- Watahiniwa lazima wahakikishe kwamba kurasa zote za karatasi zimepigwa chapa sawasawa na kuwa maswali yote yamo.

MASWALI

1. Andika barua kwa mhariri wa gazeti la sauti ya mzalendo kuhusu madhara ya janga la korona nchini Kenya.
2. Vyama vya wanafunzi shuleni vina manufaa ya kuhusudiwa.Jadili.
3. Tunga kisa kitakachodhihirisha maana ya methali ifuatayo.

   Mwenye kovu sidhani kapona.

4. Tunga kisa cha kusisimua na kumalizika kwa …..hivyo ndivyo ukurasa mpya katika

   kitabu cha maisha yangu ulivyofunguka.

EXTRACOUNTY MOCKS

KISWAHILI

KARATASI YA 2

Jina……. Nambari ya mtahiniwa:…….....

Shule……

Sahihi ya mtahiniwa……. Tarehe……...……...

KISWAHILI

KARATASI YA 2

MUDA: SAA 2 DAK 30

Maagizo

(a) Andika jina lako na namba yako ya usajili katika nafasi ulizoachiwa hapo juu.
(b) Tia sahihi yako kisha uandike tarehe ya mtihani katika nafasi ulizoachiwa hapo juu.
(c) Jibu maswali **yote.**
(d) Majibu yote yaandikwe kwenye nafasi ulizoachiwa katika kijitabu hiki cha maswali.
(e) Majibu yote ni **lazima** yaandikwe kwa lugha ya Kiswahili.
(f) Usitoe ukurasa wowote kutoka kwenye kijitabu hiki.
(g) **Karatasi hii ina kurasa 10 zilizopigwa chapa.**
(h) **Watahiniwa ni lazima wahakikishe kwamba kurasa zote za karatasi hii zimepigwa chapa sawasawa na kuwa maswali yote yamo.**

KWA MATUMIZI YA MTAHINI PEKEE: -

Swali	**Upeo**	**Alama**
1	**15**	
2	**15**	
3	**40**	
4	**10**	
JUMLA	**80**	

1. UFAHAMU (Alama 15)

Soma kifungu kifuatacho kisha ujibu maswali

Wanawake ndio wanaonyanyasika zaidi katika vyombo vya usafiri hasa kwenye mabasi na matatu. Kwa kiasi fulani, kunyanyasika huku hutokana na maumbile, mavazi, watoto na mizigo mbalimbali wanayoibeba. Kwa upande mwingine utakuta kwamba, wafanyakazi karibu wote katika matatu na mabasi ni wanaume na shughuli zao wanaziendesha kama wanaume na sio vinginevyo. Wanaume hawa huendesha mambo zaidi kwa kumjali na kumtetemekea mwanamme na sio mwanamke. Mwanamke anashughulikiwa tofauti iwapo tu yeye mwenyewe ndiye mwenye mali hiyo, ni ya jamaa yake au mpenzi wa wafanyakazi katika matatu hizo. Hali ya vyombo vya usafiri inavyoonekana pia ni kuwa vimeandaliwa zaidi katika kumjali mwanamme na siyo mwanamke au watu wenye tofauti au upungufu fulani mwilini.

Iwe ni tabia ya utingo au ya madereva au ni hali halisi ya vyombo vilivyoundwa, yote haya ni mambo yanayoweza kubadilishwa endapo tu wanawake watakuwa na sauti moja na kusimama kidete katika kupigania na kutetea kile wanachostahili kukipata katika huduma za usafiri na uchukuzi mijini na nchi nzima kwa ujumla.

Kama ilivyotajwa hapo juu, kuna tofauti za kimsingi kati ya wanaume na wanawake. Katika jamii inayomjali kila mtu, ni muhimu kwa tofauti hizo kuzingatiwa ili kuhakikisha kuwa kila mwanajamii anapata huduma anayohitaji kwa amani na usalama na bila usumbufu kwake au kwa wale wanaomtegemea. Pamoja na matatizo yote wanayopata wanawake, hakuna chombo kilichojizatiti kutoa sauti ya umoja na kusema kwamba hili au hiki kinachofanyika siyo sawa au siyo haki kwa mwanamke.

Wakati umefika sasa kwa wanawake wenyewe kujiunga pamoja, kuelimishana na kuanza kupigania haki zao ili wasiendelee kunyanyasika katika vyombo vya usafiri. Ninatoa mifano michache. Wale wanaokwenda safari ndefu wanajua fika adha wanayopata wanawake wakati basi limesimama peupe watu wanatakiwa “wakachimbe dawa.” Kwa mwanamme si kazi. Lakini kwa mwanamke kuna

shida,tena siyo kidogo. Je, kwa nini wanawake waendelee kuvumilia haya? Kuna ugumu gani kwa kila basi ya safari ndefu kuwa na choo ndani? Wenye dini zinazodai tohara nao wanasemaje?

Shida nyingine ni katika kupanda magari haya. Kwenye matatu, ni rahisi (ingawa hatari) kwa mwanamme kupanda gari huku likiwa kwenye mwendo, lakini je, dereva wa matatu anastahili kufanya hivyo kwa mwanamke? Upande wa mizigo hasa kwa wafanyabiashara ni adha tupu kwa wote. Je, nini kifanyike ili kila mtu aweze kufanya biashara yake kwa ustaarabu zaidi? Ni kama kwamba wanawake wamekubali kunyanyaswa kwao ni sehemu ya maisha. Hivi sivyo inavyostahili kuwa. Sote tuna haki sawa kwenye kila aina ya chombo cha usafiri. Tatizo ni pale tunapokubali kugeuzwa mizigo na kubebwa jinsi mbebaji anavyotaka kutubeba. Kama wanawake wana sauti ya pamoja kuhusu maswala haya, nina hakika kuwa tutaanza kuona mabadiliko katika mabasi na matatu zetu.

Muda wa wanawake kuonekana kuwa ni “washamba” na watu wanaoweza kudanganywa kuwa gari lina viti vya kulala nalo kumbe limejaa tele na bado mtu akapanda umekwisha pita. Huduma yoyote lazima iwe na hadhi ya namna fulani. Na wanaoamua ni hadhi gani huduma hiyo iwe sio wenye basi au matatu bali abiria, maana nauli anayolipa ni kura inayotakiwa kumwezesha kuchagua kilicho bora na sio kilicho duni.

Ni vyema kuelewa kuwa ni wanawake na sio wanaume waliochangia zaidi kumaliza ubaguzi wa rangi huko Marekani na Afrika Kusini. Wanawake kwa sababu wanafikiriwa kimakosa kuwa legelege ilidhaniwa wasingekubali kususia mabasi na kutembea kwa miguu kama mbinu ya kugomea mfumo uliokuwepo nyakati hizo huko Atlanta na Johannesburg. Hata hivyo, wanawake hao waliyagomea mabasi hayo kwa roho moja na kutembea, wakati mwingine hata masafa ya kilomita ishirini kwa miguu kila siku. Wenye mabasi na serikali wakaonja makali ya mgomo huu na huo ukawa mwanzo wa mabadiliko yaliyosababisha kuzuka kwa siasa zisizovumilia ubaguzi wa rangi katika usafiri na hatimaye katika mustakabali mzima kitaifa. Wanawake wa nchi yetu nao wakitaka wanaweza pia kuanzisha vuguvugu litakalosaidia usafiri na uchukuzi nchini kuwa wa heshima, kistaarabu na unaowajali wanawake, wazee na watoto.

Maswali

(a) Kwa kurejelea kifungu, fafanua namna tatu mwanamke anavyodhalilishwa.(alama 3)

……

……

……K

una nyakati mwanamke anajipata katika hali nafuu kidogo katika usafiri. Eleza. (alama 1)

……Ili

kujikomboa na madhila anayokumbana nayo, mwanamke anastahili afanye nini?(alama 4)

……

……

……

……El

eza juhudi zilizofanywa na mwanamke kwingine kupambana na dhuluma katika jamii yake.

(alama 1)

……M

wandishi wa kifungu hiki anapendekeza nini kuhusu namna huduma kwa umma zinafaa kutekelezwa.

(alama 4)

……

……

……

……

……

(b) Eleza maana ya mafungu yafuatayo kama yalivyotumiwa katika kifungu hiki. (alama 2) (i) katika mustakabali mzima wa taifa

……

(ii) wanatakiwa wakachimbe dawa

……

2. <u>UFUPISHO</u> <u>(ALAMA 15)</u>

Soma makala yafuatayo kisha ujibu maswali

Kwa hali nyingine, tunaweza kusema kuwa uchafuzi wa mazingira ni uharibifu wa vilevitu vinavyowazunguka binadamu na wanyama maishani mwao. Kuna uchafuzi wa aina mbalimbali na kila uchafuzi humhusu binadamu kwa njia fulani.

Maendeleo ya viwanda duniani ni sababu mojawapo ya uchafuzi wa hewa. Mitambo katika karakana huwa inatoa moshi mwingi wakati bidhaa zinapotengenezwa. Moshi husambaa eneo kubwa na kuchanganyika na hewa inayovutwa na binadamu. Uchafu hutupwa ovyo ovyo na kuwa hatari kwa afya ya binadamu. Maji machafu huweza kutiririkia mtoni, maziwani na hata baharini. Yale yanayotiririka mitoni na maziwani huchafua maji ambayo hutumiwa na watu wa eneo hilo kwa kunywa, kupika na kunywesha mifugo wao. Yale yanayotiririka baharini huwa ni hatari kwa samaki wanaotegemewa na binadamu kuwa kitoweo muruwa.

Ongezeko la watu pia ni hali nyingine ya uchafuzi wa mazingira. Halaiki ya watu hufanyauharibifu wa misitu ya asili. Hii ni kwa sababu ya kutaka kuongeza ekari za mashamba. Hili husababisha mmomonyoko wa udongo; hivyo basi kuiacha ardhi bila rutuba yoyote. Katika hali hii, kilimo ambacho ni uti wa mgongo wa nchi nyingi duniani huzoroteshwa. „„Maisha ya binadamu hutegemea kilimo kwa kila hali kwa hivyo kilimo kinapozoroteka hata uchumi nao huathirika. Kila uchao tunasikia kwamba nchi fulani imekabiliwa na njaa.

Ufugaji wa wanyama wengi bila mpango maalum pia huharibu mazingira ya asili kama nyasi na vichaka. Watu wengi hufuga ng‟ombe, mbuzi na kondoo. Kwa kuwa hawana mahali maalum pa kuwalisha, huzunguka nao huku na huko kutafuta nyasi na majani ya kuwalisha. Wanyama wanaotangishwatangishwa namna hiyo humaliza majani na nyasi zote na kuacha ardhi tupu ambayo hatimaye huyabisika kwa jua. Ardhi ya namna hii haishiki maji mvua inyeshapo. Nchi iliyoneemeka huweza kuwa jangwa lililo na chungu ya mchanga.

Watu wanapoongezeka huko mashambani huwabidi wakate misitu ili waanzishe maskani mapya pamoja na mashamba yao. Miti hukatwa bila hadhari na mabiwi ya matawi pamoja na majani huchomwa moto. Jambo la kusikitisha ni kwamba miti hiyo inapokatwa hakuna mingine inayopandwa kuchukua mahali pake.

Mahitaji ya binadamu ya kuendeleza njia za mawasiliano pia huzusha balaa nyingine. Barabara zinazidi kuongezeka na pia watu wanaozidi kuongezeka pamoja na mazao yao. Kwanza, barabara zinapotengenezwa misitu hukatwa mahali zinapopitia. Pili, wingi wa magari huzidi na baadhi ya hayo magari hutoa moshi unaoharibu hewa.

Njia kadha wa kadha za kuzuia uharibifu wa mazingira zimependekezwa. Ingawa suluhisho timamu halijafikiwa, serikali nyingi duniani zimo katika harakati za kutafuta suluhisho la uchafuzi huo.

Njia mojawapo ni kukomesha ujenzi wa viwanda katika miji mikuu na mahali palipo na watu wengi.Wenye viwanda pia wanahimizwa kufikiria jinsi ya kutupa takataka na maji machafu bila kudhuru afya ya binadamu.

Watu wakizingatia suala la upangaji wa uzazi na kuwa na familia ndogo ndogo, idadi ya watu haitaongezeka kwa kasi kwa hivyo itakuwa hakuna haja ya kuanzisha makao mapya mara kwa mara.

Serikali nyingi zimechukua jukumu la kuwaelimisha raia juu ya madhara yanayotokana na uharibifuwa mazingira. Raia wanahimizwa kupanda miti kwa wingi. Aidha, ni jukumu la jamii katika eneo athirika kujenga matuta ya kuzuia mafuriko na kudhibiti mmomonyoko wa udongo.

Jitihada zinazofanywa kuzuia uchafuzi wa mazingira hukumbana na matatizo. Tatizo kubwa ni fedha za kuendeleza miradi inayopendekezwa. Shida nyingine ni kwamba juhudi zingine huwa zinamwingilia binadamu na mali yake.

Maswali

(a) Fupisha aya sita za kwanza za taarifa uliyosoma kwa maneno 60. (alama 7) **Nakala chafu**

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Nakala safi

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(b) Fupisha aya za mwisho tano kwa maneno 50-55 (alama 6)

Nakala chafu

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Nakala safi

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MATUMIZI YA LUGHA (ALAMA 40)

(a) Andika tofauti moja kati ya sauti zifutazo. (alama 2)

(i) /ny/ na /ng‟/

……

(ii) /g/ na /gh/

……

(iii) /s/ na /z/

……

(iv) /ch/ na /j/

…….

(b) Aindika kielezi chenye miundo ifuatayo. (alama 1)

Kipasuo ghuna cha ufizi, irabu ya chini kati, irabu ya mbele juu, nazali ya midomo, irabu ya kati chini na tandazwa.

……..

(c) (i) Silabi ni nini? (alama 1)

……..

(ii) Huku ukitoa mifano, eleza miundo miwili ya silabi za Kiswahili. (alama 2)
……

……El

eza dhima tatu za viambishi tamati mbali na kauli ya kutenda/kiishio. (alama 3)

……

……

……

(d) Tunga sentensi mbili kuonyesha matumizi mawili ya kiambishi: **-I-** (alama 2)

……

……...

(e) Andika sentensi hii katika ukubwa. (alama 1)

Kijumba chenyewe kilijengwa karibu na mto.

……

(f) Taja nomino mbili kutoka ngeli tofauti zinazowakilishwa na kiambishi ngeli kilichopigiwa mstari. (alama 2)

Itatumika katika sherehe yake.

……

……..

(g) Badilisha sentensi katika kauli iliyomo kwenye mabano.

(i) Marie alipewa zawadi yake. (tendeka) (alama 1)

……

(ii) Tunga sentensi ukitumia kitenzi kishirikishi kipungufu katika ngeli ya KI-VI. (alama 2)

……

(h) Yakinisha sentensi ifuatayo katika nafsi ya pili umoja. (alama 1)

Sitaenda nyumbani kesho.

……..

(i) Tunga sentensi ukitumia nomino dhahania katika ngeli ya U-U kutokana na neno: (alama 2) Zusha

……

……

(j) Eleza maana mbili zinazojitokeza katika sentensi hii. (alama 2)

Mama anatupa mtoto.

……

……

(k) Tunga sentensi yenye muundo ufuatao. (alama 2)

S – KN(N+S)+KT(Ts+T+E)

……

(l) Akifisha: (alama 4)

Akionekana mwenye hasira mkurugenzi huyo alishangaa jameni kwa nini wakenya wanaharibu mali hivi hii si siasa bali ni wendawazimu.

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(m) Tunga sentensi kudhihirisha masharti yasiyowezekana katika hali timilifu. (alama 2)

……

……..

(n) Wanne walituzwa na mwalimu. (Tumia kivumishi cha kuorodhesha). (alama 2)

……

(o) Taja vitenzi vyovyote viwili vyenye asili ya kigeni katika kauli ya kutendea. (alama 2)

……..……

…….

(p) Ainisha yambwa katika sentensi; (alama 3)

Mwanafunzi alitumiwa barua kwa posta.

……

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……

(q) Unda nomino mbili katika hali ya wingi kutokana na kitenzi hiki. (alama 2) Sawidi

……..

(r) Biwi ni kwa taka ……ni kwa maji na kikuba ni kwa ……. (alama 1)

3. ISIMU-JAMII (ALAMA 10)

“Leo hii utashi wetu wa kujitosheleza umetusukumiza ukingoni mwa maisha. Vyakula vyetu sasa vina kemikali hatari kutokana na mizizi ya mimea kufyonza virutubisho vyenye naitrojeni. Virutubisho hivi hustawisha mimea. Hata hivyo, mimea hii tunayoila ina kemikali hatari kwa miili yetu. Kemikali hizi husababisha saratani na hili ndilo tatizo la kijiji hiki.

(a) Bainisha sajili ya makala haya kwa kutoa mfano mmoja kutoka kwenye makala. (alama 2)

……

……

(b) Fafanua sifa nyingine nane za sajili hii ambazo zingejitokeza katika makala haya. (alama 8)

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EXTRACOUNTY MOCKS

KISWAHILI

PAPER 3

NAME……..ADM…….CLASS……

102/3

KISWAHILI

KARATASI YA TATU

Maagizo

Jibu maswali manne pekee

(b) Swali la kwanza ni la lazima

(c) Maswali hayo mengine matatu yachaguliwe kutoka sehemu nne zilizobaki yaani Riwaya, Hadithi fupi, Tamthilia, Ushairi na Fasihi simulizi.

(d) usijibu maswali mawili kutoka sehemu moja

Swali	Upeo	Alama
1	20	
	20	
	20	
	20	
Jumla	80	

1. “La, Mzee…. Mbio za sakafuni zimefika ukingoni” (al 4)
   (a) Eleza muktadha wa dondoo hili
   (b) Mbio zipi zimefika ukingoni? (al 4)
   (c) Fafanua maudhui mawili yanayojitokeza katika dondoo lenyewe. (al 4)
   (d) Taja mbinu za lugha zinazojitokeza hapa. (al 4)

CHOZI LA HERI

2. Matatizo mengi yanayowakumba wahusika wengi katika riwaya hii ni mwiba wa kujdunga. Jadili. (al 20)

3. “Hili lilimtia……..uchungu, akajiona kama aliyedhalilishwa na mwanamke.”

(a) yaweke maneno haya katika muktadha wake. (al 4)

(b) Taja suala linalodokezwa katika dondoo hili. (al.1)

(c) kwa kutumia hoja kumi na tano, eleza namna suala ulilolitaja hapo juu(b) llinavyojitokeza katika Riwaya. (al.15)

HADITHI FUPI

SHIBE INATUMALIZA:

4. “Hatuwezi kumaliza kula, kila leo tunakula”

(a) Eleza muktadha wa dondoo hili. (al 4)

(b) Fafanua tamathali ya usemi iliyotumika (al 2)

(C) Eleza umuhimu wa mnenaji. (al 4)

(d) “Lakini nakwambia, kula kunatumaliza”. Kwa kudokeza hoja kumi, jadili ukweli wa kauli hii. (al 10)

5. Huku ukirejelea hadithi zifuatazo, eleza namna unyanyasaji umeshughulikiwa. (al 20).

(i) Tumbo lisiloshiba

(ii) Shibe inatumaliza

(iii) Mame Bakari

(iv) Kidege

(v) Tulipokutana tena

6. **Soma shairi hili kisha ujibu maswali**

Naingia ukumbuni,nyote kuwakariria
Ushairi niwapeni, hoja nitawaachia
Mnipe masikioni, shike nachoelezea,
Taifa sio taifa, pasi kuwa maadili.

Naaanza kwa usalendo, nchi yetu tuipende,
Yadhihirishe matendo, nchi yetu tuilinde,
Wa kila mtu muwendo, usije kawa mpinde,
Taifa sio taifa, pasi kuwa maadili.

Wote tuwe na umoja, tuuache ukabila,
Kabila lisiwe hoja, mwenza kunyima hela,
Taifa letu ni moja, Mkenya ndilo kabla,
Taifa sio taifa, pasi kuwa maadili.

Linda demokrasia, uongozi tushiriki,
Haki kujielezea, wachotaka na hutaki,
Change naweza tetea, demokrasia haki,
Taifa sio taifa, pasi kuwa maadili

Tena adili usawa, mgao rasilimali,

Bajeti inapogawa, isawazishe ratili,

Idara zilizoundwa, faidi kila mahali,

Taifa sio taifa, pasi kuwa maadili.

Tuwe na uadilifu, twache tamaa ya hongo,

Tusiwe na uadilifu, wa kuwa watu waongo,

Tukomeshe uhalifu, kisha tuache maringo,

Taifa sio taifa, pasi kuwa maadili.

Ubinafsi si adili, ila ni kusaidiya,

Ukiwa nayo maali, asiyenacho patiya,

Kama mtu mswahili, ubinafsi achiya,

Taifa sio taifa, pasi kuwa maadili.

Na invyoelezea, katiba ni kielezi,

Tutii kwa mazoea, hadi kijacho kizazi,

Kwa hayo nitawachia, hiyo ya ziada kazi,

Taifa sio taifa, pasi kuwa maadili.

Maswali.

(a) Shairi hili ni la aina gani? Toa sababu (al 2)

(b) (i) Onyesha aina mbili za uhuru wa kishairi uliotumiwa katika shairi hili

(al 2)

(ii) Bainisha umuhimu wa uhuru wa kishairi uliotaja hapo juu (i) (al 2)

(c) Bainisha kipengele kifuatacho cha kimtindo katika shairi hili (al 1)
Usambamba

(d) Eleza toni ya shairi hili. (al 1)

(e) Bainisha nafsineni katika shairi hili (al 1)

(f) Ainisha shairi hili kulingana na:-

(i) Mpangilio wa vina

(ii) Idadi ya vipande katika ubeti (al 2)

(g) Changanua muundo wa ubeti wa nne. (al 3)

(h) Eleza aina mbili za urudiaji katika shairi hili (al 2)

(i) Andika ubeti wa pili kwa lugha nathari. (al 4)

7. **Soma shairi lifuatalo kisha ujibu maswali.**

Hukuja hapa kwa wingi,

Vitimbi vya kila namna,

Kunambia nikuruzuku,

Kimwana awe mwenzio,

Hukumtwaa mwanangu,

Kisema mno walavu,

Vipi wangeuza ngoma,

Mapepo wampigia?

Siwe uloandaa,

Harusi ya kukata na shoka,

Masafu ya magari, yakilalama jua kali,

Hadi kanisani kungia, mimbari wa kusimama,

Kasema utamuenzi, hadi yenu mauko?

Vipi jicho lageukia, mitaani vipaa mwitu?

Hukunabia we fidhuli,

Mwanangu utamtunza?

Taandamana naye daima,

Ja chanda na pete?

Hukumwonjesha tamu, ya ulaghai huyuno?

Midisko wampleka, kizingizia mapenzi,

Vipi wamtezea shere, mwangu kumliza?

Lini taacha dhuluma hizino humfanyiazo,

Tuchukua lini majukumu,

Ya kumlea na vifaranga?

Huachi kulia u waya

Wanao kitelekeza

Nadhiri zako za nitakipu promise,

Zi wapi mwana balaa?

Lini tafumbua maozi, uone huyu nduli,

Alotwala wengi wapendi,

Kwa jicho la nje kuwangia,

Imeanguka miamba mingapi, nayo ngangania kufia dodani,

Zinduka mwana zinduka,

Ailayo waangamiza.

Maswali

(a) Hili ni shairi huru. Thibitisha. (al 2)

(b) Mwandishi anaibusha masuala kadhaa ya kijamii. Yadokeze (al 2)

(c) Bainisha nafsineni katika shairi hili (al 1)

(d) Eleza toni ya utungo huu. (al 1)

(e) Bainisha matumizi ya: -

- Mistari mishata
- Mistari kifu

(f) Eleza kwa kutoa mifano mbinu za kifasihi zilizotumika katika ushairi huu. (al 3)

(g) Eleza vile mshairi alivyotumia idhini ya kishairi katika utungo huu. (al 3)

(h) Bainisha umuhimu wa maswali ya balagha yaliyotumika katika ushairi huu. (al 2)

(i) Andika ubeti wa tatu kwa lugha tutumbi. (al 4)

FASIHI SIMULIZI

Soma maagizo yafuatayo kisha ujibu maswali

(Alfajiri kuu. Vijana wanazunguka kinu, vifua wazi. Nyusoni wamepakwa masizi na aina ya tope jeupe. Wako katikati yam situ. Mzee Jando ameketi kwenye namna yam to wa nyasi.)

Mzee Jando: (Akiwahiza) haraka! Ongezeni kasi! Zunguka! Haya imbeni, barobaro!

Vijana: jua lachomoza!

Muda umefika wa mbegu kuatika!

Ichipuke na kuzalisha matunda!

Ni leo, ni sasa!

Mzee Jando:haya ketini sasa

Vijana: (Vijana wanaketi katika mistari huku wameshikana mikono mabegani)

Mzee Jando:tulisema mume nini?

Vijana: (kwa pamoja na kwa sauti ya dhati)

Mume ni kazi

Sio ubazazi

Ale jasho lake!

Mzee Jando:Sawa kabisa, je mume ni nani?

Vijana: Ni mlinzi wa jamii

Ni mfano mwema wa jitihada

Apambane na adui

Atende wajibu na maadili

Mzee Jando: Jambo linalovunja umoja!

Vijana: Likumbatiwe na kufunzwa hata watoto wachanga!

Mzee Jando: Haya, semeni wenyewe leo!

Vijana: Leo tumkomaa, si watoto tena

Tumetimia barobaro kamili

Sisi ni stadi

Sisi ni wapevu!

Tayari kwa majukumu ya kujenga jamii

Sisi ni tegemeo la umma

Sisi ndio chimbuko la wema

Maadili na upendo

Mzee Jando: Nakubali mko tayari. Haya tuendelee na ada zetu zingine. Kijembe kukidhihaki!

Vijana: (Wanasimama kijasiri na kurindimisha sauti) Tuko tayari

kuingia utuuzima!

8(a) Bainisha kipera cha maigizo kinachorelelewa. Thibitisha jibu lako kwa mifano mine. (al 5)

(b) Fafanua matarajio sita ya utuuzima kwa mujibu wa maigizo haya. (al 6)

(c) Eleza mbinu nne za sanaa ambazo waigizaji wamezitumia katika kuwasilisha maigizo haya. (al 4)

(d) Unanuia kukusanya data kuhusu kupera hiki, fafanua mbinu sita utakazotumia kukusanyia data huku ukionyesha sababu za utenzi wako.(al 5)

EXTRACOUNTY MOCKS

BIOLOGY

PAPER 1

Name……. Index Number:…….....

School …….

Candidate's Signature……. Date……...……..

BIOLOGY
PAPER 1
TIME: 2Hours

INSTRUCTIONS TO CANDIDATES

- Answer ALL the questions.
- Answers must be written in the spaces provided in the question paper.
- Additional pages must not be inserted.

FOR EXAMINERS USE ONLY

Question	Maximum score	Candidate's score
1-29	80	

This paper consists of 10 printed pages. Candidates should check the question paper to ascertain that all the pages are printed as indicated and no questions are missing

1. How does growth as a characteristic of living organisms differ in plants and animals ?
(2marks)

……

……

2. a)State the role of active transport in animal nutrition **(1mark)**

……

b) Cyanide lowers the rate of active transport. Explain? **(2marks)**

……

……

3. The figure below is a diagram of a vertical section of a mammalian tooth.

(i) Name the part labelled **A** and **B**. **(2 marks)**

A

……

C

……

(ii) State ***two*** ways in which structure **D** is adapted to its functions. **(2 marks)**

……

……

(iii)List ***two*** ways of preventing gingivitis. **(2 marks)**

……

……

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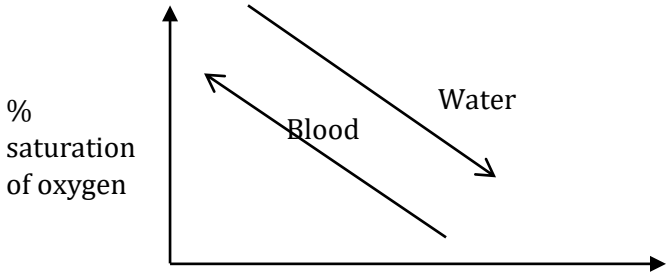
.

4. The figure below shows % saturation of oxygen in blood in fish as water passes along the gill plate.



(a) (i) Name the type of blood flow shown in the gill plate. **(1mark)**

…… (ii) Explain the advantage of the type of flow named in a (i) above **(2marks)**

……

……

(b) State **two** organs in humans which display the type of flow named in a (i) above **(2marks)**

……

……

(c) State **two** ways in which floating leaves of aquatic plants are adapted to gaseous exchange **(2marks)**

……

……

5. The equation below shows an oxidation reaction of food substances.

$C_{51}H_{98}O_6 + 145O2$ ------- X CO2 + 98 H2O + energy

a) What do you understand by the term respiratory quotient? **(1mark)**

……

b) Determine respiratory quotient of the oxidation of food substance. **(2marks)**

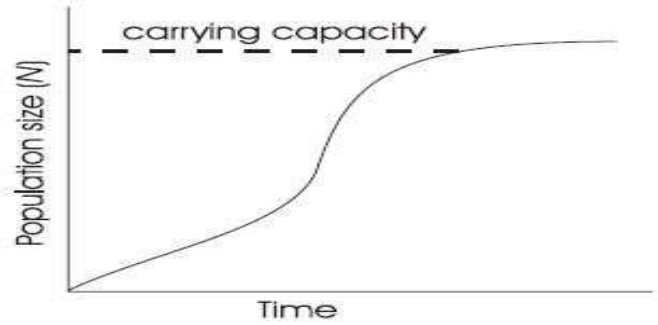
……

……

c) Identify the food substances. **(1mark)**

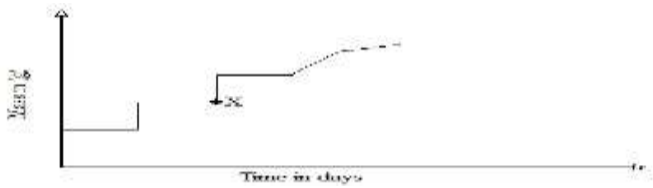
……

5. When any one of the growth parameters such as growth in size or weight, increase in number of cells are plotted in a graph against time like below, a clear curve is obtained



State its name……..... **(1mark)**

6. The graph below represents the growth in a certain phylum.



How does this differ from growth in humans? **(1mark)**

……

7. The embryo of a dry, fully developed seed usually passes through a period of rest after ripening period and it cannot germinate even when provided with all favorable conditions. State the significance of this. **(2marks)**

……

……

8. a) Cowpeas seeds were place in a vacuum flask and left for five days. What is the expected change in composition of gases in the flask on the sixth day? **(1mark)**

……

b) Give a reason for your answer in (a) above **(1mark)**

……

9. Biotechnologist works day a night to curb food insecurity using the knowledge of polyploidy in genetics.

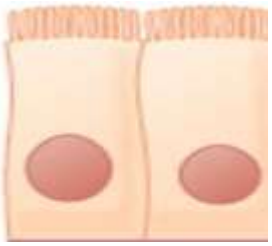
Explain the economic importance of such practice? **(2marks)**

……

……

b) Define a backcross? **(1 mark)**

10. The structure below was obtained from an animal cell



a) What is the name of the hair like processes and state its function? **(2marks)** Name

……..

Function

……..

b) From which parts of the mammalian body are these structures found? **(1mark)**

……..

c) State the effect of cigarette smoking to the structure? **(1mark)**

……

12. A student was found to have blood group B+

a) What type of antibody is present in his plasma? **(1mark)**

……

b) Which antigens are present in this blood group? **(1mark)**

……

13. Plants relatively have less waste to excrete than animals. Give two reasons to explain this observation **(2marks)**

……

……

……

14. State **two** methods by which plants get rid of their waste products **(2marks)**

……

……

……

15. To estimate the population size of mosquitoes in Banji village that covers an area of $25km^2$, visiting researchers caught 400 mosquitoes which they marked and released. After 24 hours, 200 mosquitoes were caught out of which 120 had not been marked.

(a) Suggest the sampling method described above. **(1 mark)**

……

(b) What are the disadvantages of this method? **(2 marks)**

……

……

16. The table below shows stomatal distribution on leaves A and B and their surface area. Use the information to answer the questions.

	Leaf surface	A	B
Number of stomata	Upper leaf surface	20	5
	Lower leaf surface	0	15

Surface area		25 cm^2	18cm^2

Identify with reasons the habitats of the plant from which the leaves were obtained.

Leaf A: **(2 marks)**

Habitat ……..……..……..……..

Reason ……..……..……..……..…….

……..……

Leaf B: **(2 marks)**

Habitat ……...……

Reason ……

……

17. Name the causative agent of the following diseases **(2 marks)**

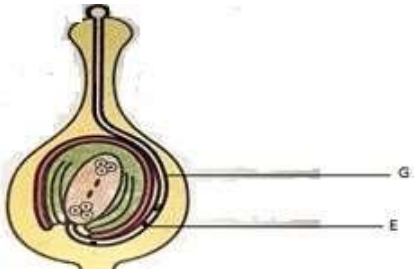
(i) Trichomoniasis.

……

(ii) Gonorrhea

……

18. The diagram below shows a pollen tube as it develops down the style. Use it to answer the questions that follows;



(i) Name the part labelled **G**. **(1 mark)**

……

(ii) State ***two*** functions of structure labelled **E**. **(2 marks)**

……

……

19. (a) Define parthenogenesis? **(1 mark)**

……

……

(b) Name the plant hormone that induces fruit ripening. **(1 mark)**

……

20. A group of Form Three students collected a certain specimen for study as shown below. Study it carefully and use it to answer the questions that follow.

(i) Name the type of metamorphosis in the above specimen. **(1 mark)**

……

(ii) Give any ***two*** advantages of the above metamorphosis. **(2 marks)**

……

……

21. (i) Give ***two*** structural features in a leaf that adapts it to absorb Carbon (IV) Oxide.

(2 marks)

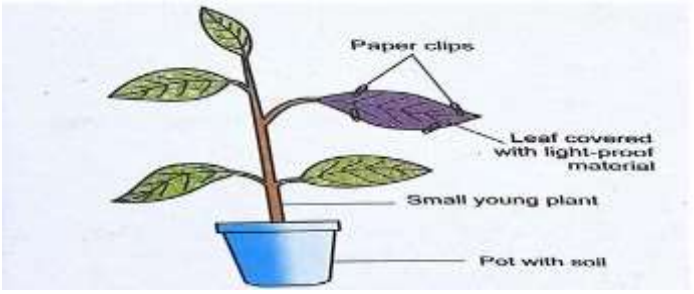
……

……

(ii) Name the cell organelle in which Carbon (IV) oxide combines with water to form a complex organic compound takes place **(1 mark)**

……

22. In an experiment to investigate a factor affecting photosynthesis; leaf of a potted plant, which had been kept in the dark overnight was covered with an aluminum foil as shown in the diagram below. The set up was kept in the sunlight for three hours after which a food test was carried out on the leaf.



(a) Which factor was being investigated in the experiment? **(1 mark)**

……

(b) Which food test was carried out? **(1 mark)**

……

(c) State the results of the food test. **(1 mark)**

……

23. Explain how the following plant adaptations minimizes rate of transpiration **(2marks)** a) Sunken stomata

……

…… b) Thick cuticle

……

……

24. Explain how drooping of leaves on a hot sunny day is advantageous to a plant **(2marks)**

……

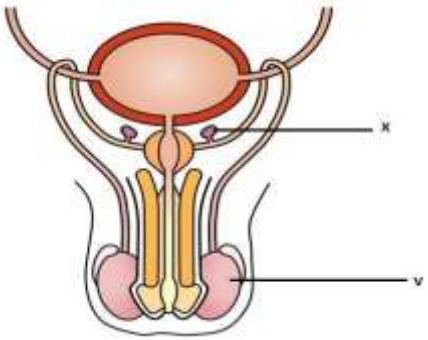
……

25. Name **two** tissues in plants which are thickened with lignin **(2marks)**

……

……

26. The diagram below shows the front view of a male reproductive system.



a) Give the functions of the structures labelled **X** and **V** **(2marks)**

X

V

……

……

b) What is the role of Follicle Stimulating Hormone in male reproduction? **(1mark)**

……

……

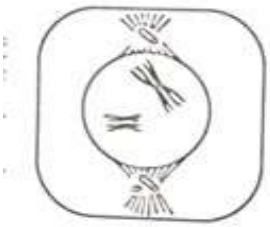
27. Explain why the concentration of insecticides in fish eating birds may be hundreds of times greater than its concentration in the water where the fish live **(3marks)**

……

……

……

28. The diagram below shows a stage in meiosis



State the biological significance of the stage represented on the diagram above **(1mark)**

……

29. How do the following factors hinder self-pollination in flowering plants? **(3marks)** a)

Self-sterility

……

……

b) Heterostyly

……

……

c)Protogyny

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……

EXTRACOUNTY MOCKS

BIOLOGY

PAPER 2

NAME:…… **INDEX NO:……**

SCHOOL:…….. **DATE:…….**

SIGN:……..

231/2
BIOLOGY
PAPER 2
(THEORY)
TIME: 2 HOURS
Kenya Certificate of Secondary Education (K.C.S.E)

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the spaces provided above.
2. Sign and write the date of examination in the spaces provided above.
3. This paper consists of **Two** sections **A** and **B**.
4. Answer **ALL** the questions in section **A** in the spaces provided.
5. In section **B** answer question 6 (compulsory) and either 7 or 8 in the spaces provided.

FOR EXAMINERS USE ONLY.

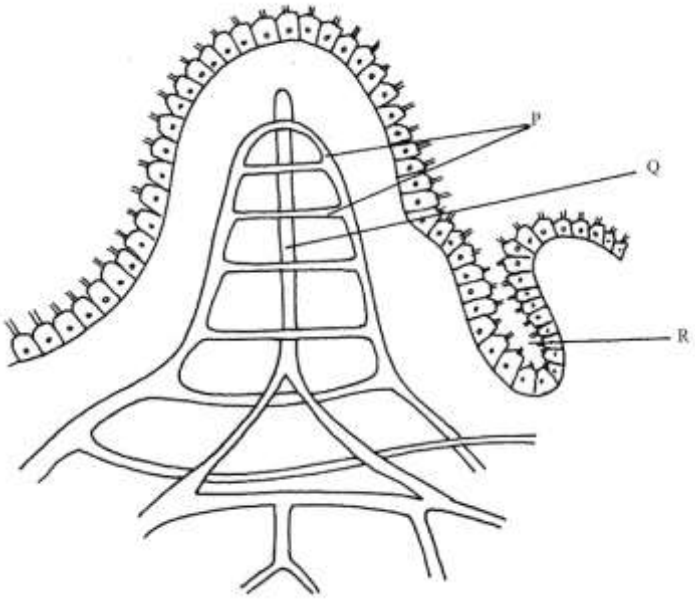
SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1 2 3 4 5	8 8 8 8 8	
B	6 7 8	20 20 20	
	TOTAL	**80**	

This paper consists of 14 printed pages.
Candidates should check the question paper to ensure that all pages are printed as indicated and that no questions are missing.

SECTION A (40 MARKS)

Answer all the questions in the spaces provided.

1. Study the diagram below and answer the questions that follow



(a) Identify the structure (1mks)

.....

.....

(b) State the role of the part labelled R (1mk)

.....

.....

(c) A student took a meal of lean meat. Briefly describe the digestion of the food substance where this structure is found (3mks)

.....

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.....

.....

(d)What is the role of the following: ***enterokinase*** and ***cholecystokinin*** in digestion? (2mk)

Enterokinase.....

.....

cholecstokinin:.....

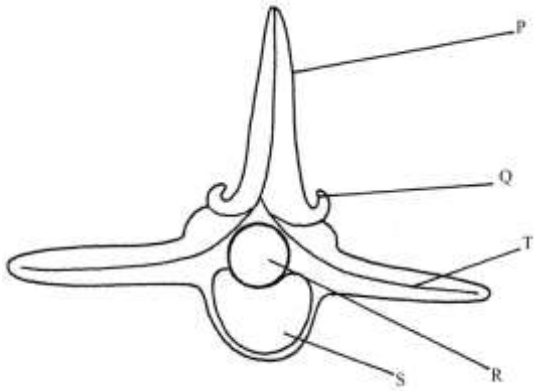
.

.....

e) State the deficiency disease associated with lack of vitamin **B_2** (1mk)

.....

2. (a) The diagram below represents the anterior view of a certain mammalian vertebra



(ii) Name the part labelled Q (1mk)

.....

ii) Describe **three** adaptations of the above vertabra to its function function (3mks)

.....

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b) State the role of the part of the brain called **Medulla oblongata** (1mk)

.....

.....

c) State the effects of under secretion of **thyroxine hormone** (hypothyroidism) (2mks)

.....

.....

3.(a) Define the following terms as applied in genetics

(i) Genetic engineering (1mk)

.....

.....

(ii) Biotechnology (1mk)

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(b) In a family of four children, the father had blood group A while the mother had blood group B. One of the children had blood group O. The father wanted to commit suicide accusing his wife of infidelity?

i) Was this accusation justified? (1mk)

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…….

ii) With the use of a punnet square work out the genotype of other children. (3mks)

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c) Explain why haemolytic disease of the new born (Erythroblastosis foetalis) is encountered in children born later in a family where the mother is Rhesus negative and the father is Rhesus positive (2mks)

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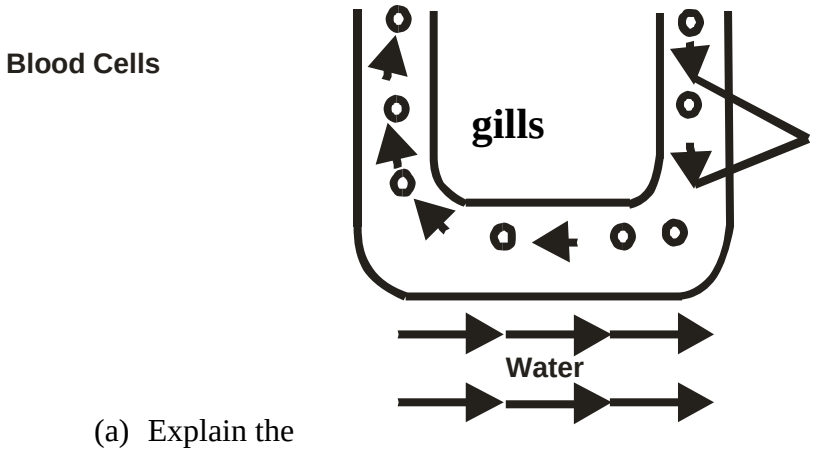
4.The diagram below shows how gaseous exchange occurs across the gills in fish.



(a) Explain the advantage of the above flow named in a(i) above. (1 Mk)

……

…..……

(b) If the fish is removed from water it dies immediately. Explain why (2mks)

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(c) Explain mechanism of gaseous exchange in frog through the skin (5mks)

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d). In mammals haemoglobin is confined to red blood cells. Give one advantage of this (1mk)

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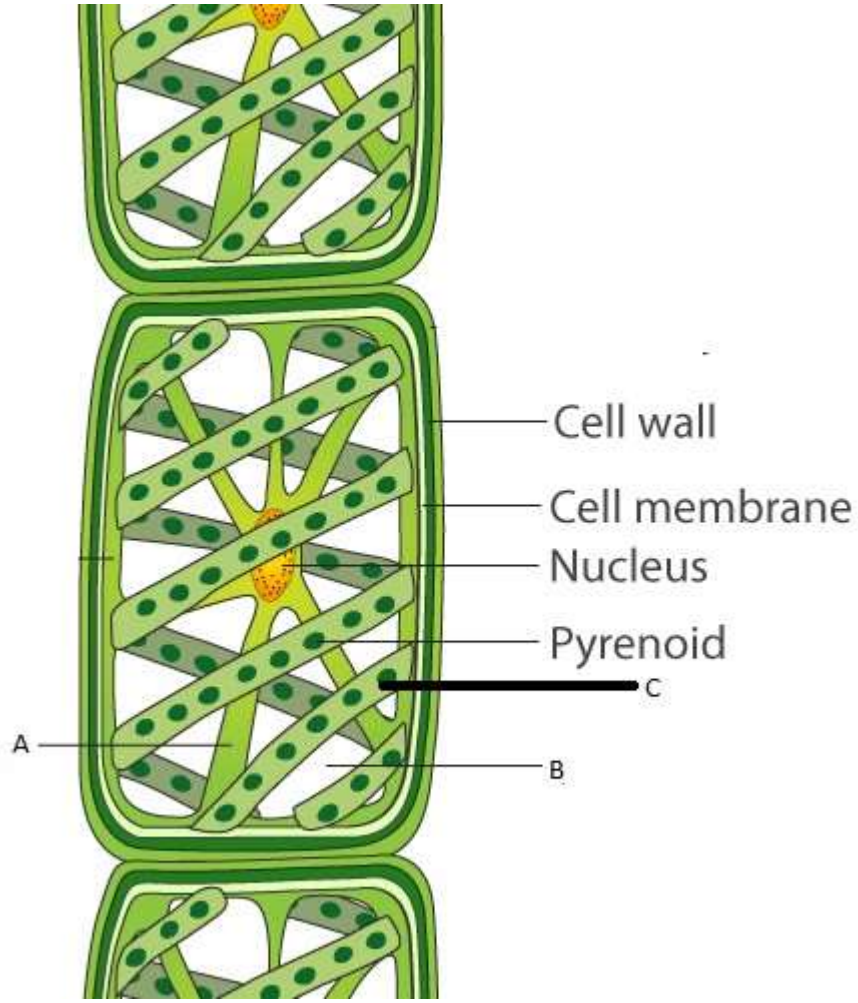
5. The diagram below show the structure of an organism. Study it and answer the questions that follows.



a) i)Name the parts labelled and Aand B (2mks)

A:..... B

:..... ii)

State the role of part labeled C (1mk)

.....

.....

b) State the kingdom to which the organism belong (1mk)

.....

.....

c) State the economic Importance of the organism in this Kingdom (1mks)

.....

.....

d) i)state the causative agent of syphilis (1mk)

.....

.....

ii) State one of the symptoms of the disease (1mk)

.....

.....

iii) State the role of sertoli cells in reproduction (1mk)

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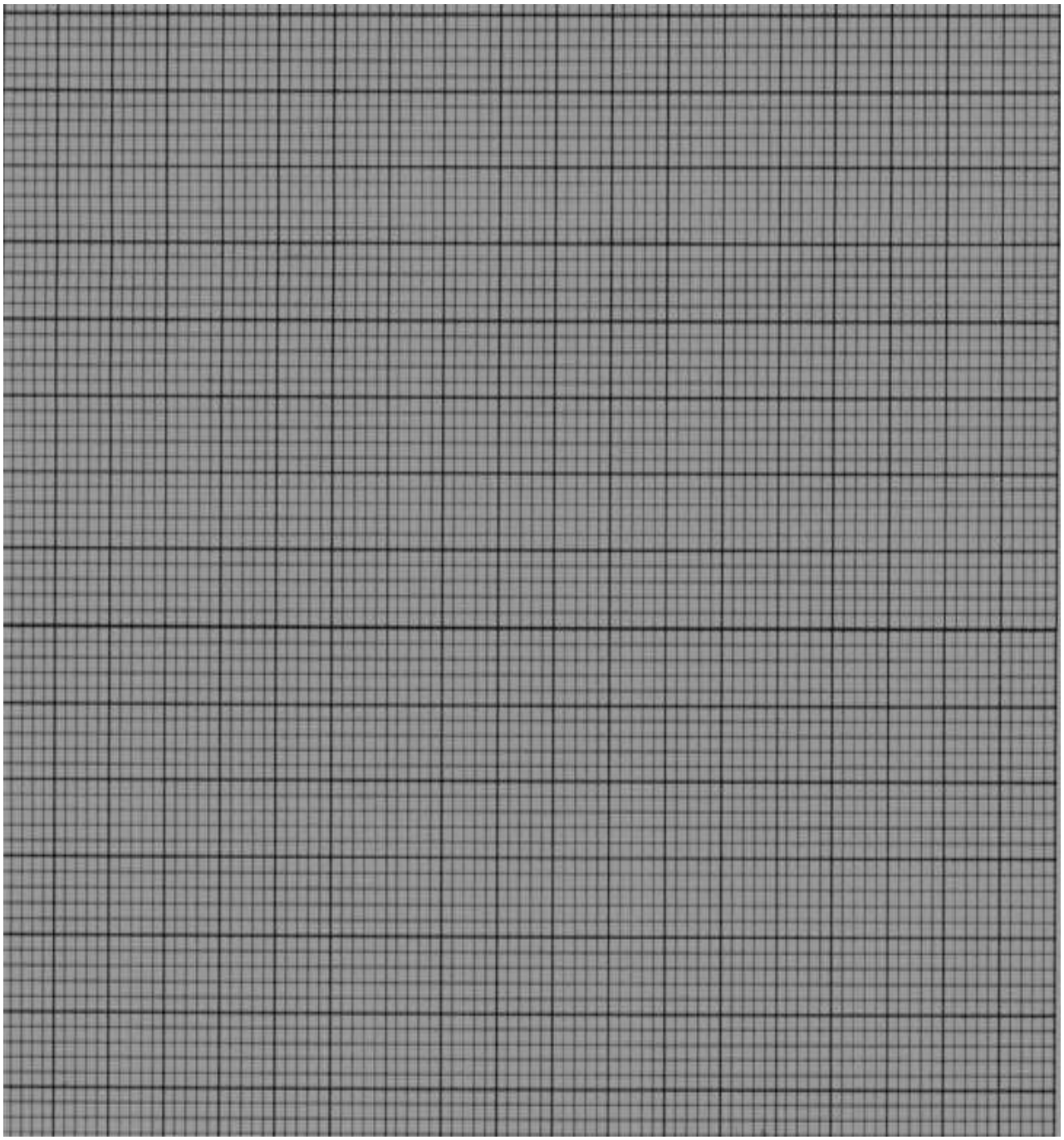
SECTION B (40 MARKS)

Answer question 6(compulsory) and either question 7 or 8

6. The data below was obtained during ecological study in grassland

organism	**Dry mass mg/m^3**
Primary producers	1600
Primary consumers	400
Secondary consumers	120
Tertiary consumers	8

(a) Using the same grid provided draw a pyramid of biomass for the data above (6mks)



(b) Account for the shape of the pyramid of biomass
(4mks)

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(c) i) Explain why pyramid of numbers on data obtained from a forest ecosystem differs from the data above (2mks)

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ii) state on importance of ecological pyramids (1mk)

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(d) Describe how you would use $1m^2$ quadrat to investigate changes in frequency of the grass population over a period of five years (4mks)

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(e) In what form will you present your results in (d) above ? (1mk)

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(f) State any two limitations of using quadrat to study populations (2mks)

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(g) Name the instrument that is used to measure light penetration in water (1mk)

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.....

7. a) describe the role of gibberellins in plant growth and development (3mks)

b) State two roles of metamorphosis in insects (2mks)

b) Describe the process of secondary growth in flowering plants (15mks)

8. Nyambura hears roar of a lion then runs away for safety. Describe how she heard the roar and what happened in the nervous and endocrine systems that made her run away. (20mks)

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EXTRACOUNTY MOCKS
BIOLOGY PAPER 3 CONFIDENTIAL
PRACTICAL

1. Specimen Q Ripe banana
2. Iodine Solution
3. Visking tubing
4. 100ml beaker
5. Thread
6. Scapel

EXTRACOUNTY MOCKS

BIOLOGY

PAPER 3

Name: …… Index No. …….

School: …… Candidate's Sign. …….....

Date: …….....

231/3
BIOLOGY
PAPER 3
TIME: 2 HOURS

Kenya Certificate of Secondary Education (K.C.S.E)

Instructions to candidates

- ***a)*** *Write your name, index number in the spaces provided above.*
- ***b)*** *Answer **ALL** questions in in the spaces provided.*
- ***c)*** *You are required to spend the first **15 minutes** of the **1 ¾ hours** reading the whole paper carefully before commencing your work.*
- ***d)*** *This paper consists of **6** printed pages*
- ***e)*** *Candidates should answer the questions in English*

FOR EXAMINER'S USE ONLY:

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1	16	
2	11	
3	13	
TOTAL	40	

Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing

1. You are provided with a specimen labelled **Q**, use it to answer the questions that follow.

(a) (i) Sketch a drawing and label the specimen on the space provided. **(2 marks)**

(iii) Make a transverse section of the specimen and label. **(3 marks)**

(b) What type of fruit is specimen Q? **(1 mark)**

……

……

c) Slice off about 2cm^{2}cube from the specimen. Peel it. Tie one end of the 8cm LONG transparent visking tubing provided. Place the banana cube and tie the other end to ENSURE THERE IS NO LEAKAGE AND BOTH ENDS OF THE TUBING.
Rinse the outside of the tubing with water. Immerse the tubing with its content in 100ml beaker containing iodine solution. Allow standing for 20 minutes.

(i) Record your observations in the table below. **(4 marks)**

	Contents inside tubing	Iodine solution Outside tubing
Before the experiment		

After the experiment		

(ii) What was the physiological activity under test? **(1 mark)**

……

……

(ii) Account for the results obtained in c (i) above. **(3 marks)**

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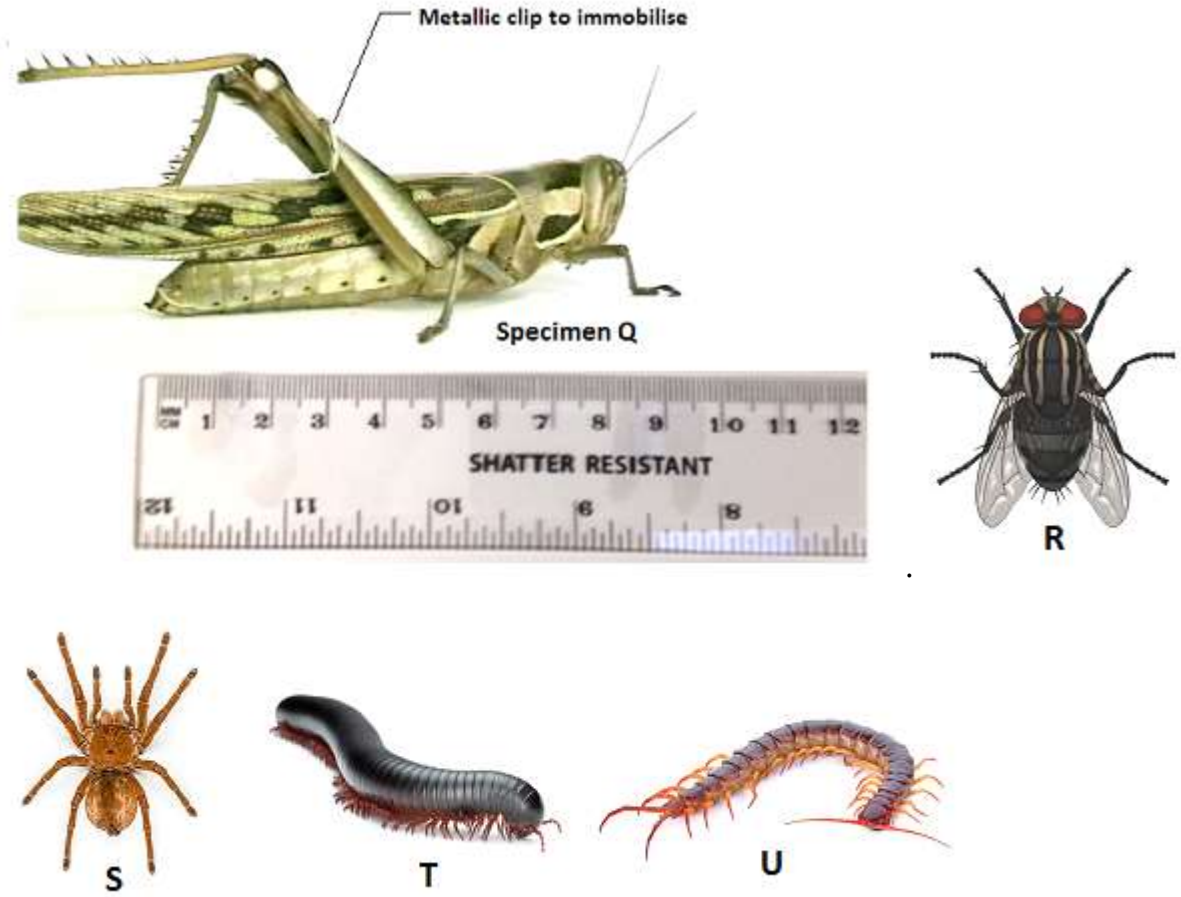
2. You are provided with specimen **Q, R S T** and **U**. Study them to answer the questions below.



(a) Work the actual length of specimen **T,** given that the shatter resistant ruler measures **Q** from tip of mouth to tip of abdomen. **(3 marks)**

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(b) Aboy immobilised specimen **Q** and attempted to drawn and suffocate it in water by placing its head in water. Using observable features, explain why he couldn't succeed. **(2 marks)**

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(c)Use the features in order given below and construct a dichotomous key that can be used to identify the specimen above.

Wings, long or short hind limbs, number of legs, antenna. **(8 marks)**

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(d) State three ways in which specimen **Q** is adapted to evade its predators in its ecological niche. **(3 marks)**

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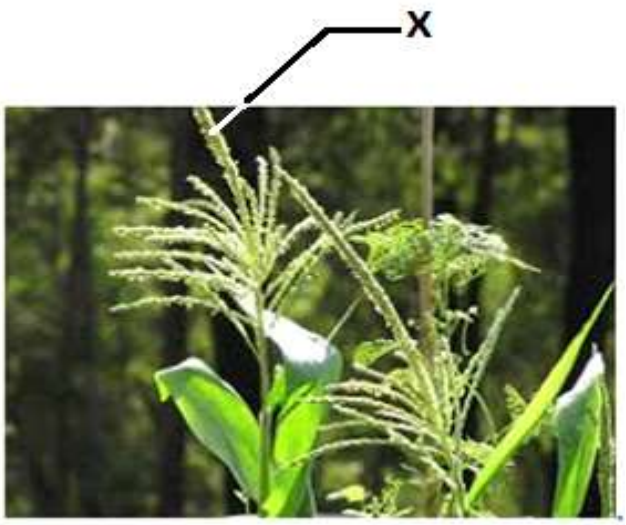
3. You are provided with two photographs below of maize plant (*Zea mays*) taken from the school farm.Use them to answer the questions that follow.

photograph A



photograph B

(a) Classify the specimen into Division, Sub-division and Class where it belongs.

Division **(1 mark)**

……

Sub-division **(1 mark)**

……..

Class **(1 mark)**

……..……

b) Give **one** reason why you classified it into sub- division above. **(1 mark)**

……

……..

(i) What type of leaf arrangement is shown in photograph **A** above. **(1 mark)**

……

(ii) Giving reasons, give the **term** used to describe the above flower based on the agent of pollination. **(1 mark)**

……

Reasons (2 marks)

……

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……

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iii) On the photographs, label where the pollen grain produced and where stigma is likely to be found respectively. **(2 marks)**

iv) With respect to floral arrangement, what term is used to describe maize plant? **(1 mark)**

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EXTRACOUNTY MOCKS

CHEMISTRY

PAPER 1

Name……. Index Number:…….....

School……

Candidate's Signature……. Date……...……...

CHEMISTRY

PAPER 1

TIME: 2Hours

Instructions to Candidates

1. ***Write your name and index number in the spaces provided above.***
2. ***Answer all the questions in the spaces provided.***
3. ***All working must be clearly shown.***
4. ***Non-programmable silent electronic calculators and KNEC mathematical tables may be used.***

For Examiner's Use only

Questions	Maximum score	Candidates score
1 - 25	**80**	

This paper consists of 10 printed pages. Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

ANSWER ALL QUESTIONS

1. The pH values of some solutions labeled **E** to I are given in the table **below**. Use the information to answer the questions that follow.

pH	14.0	1.0	9.0	6.5	5.0
Solution	E	F	G	H	I

(a) Identify the solution with the highest concentration of hydroxide ions. Explain (1mk)

……

……

(b). Which solution can be used as a remedy for acid indigestion in the stomach? Explain (1mk)

……

……

(c) Which solution would react explosively with Potassium metal? (1mk)

……

2. a) Distinguish between ionization energy and electron affinity (2mks)

……

……

b) The table below shows first ionization energies of metals represented by letters A, B, C and D. The metals are in the same group of the periodic table.

Metal	A	B	C	D
1st ionization energy (kJ/mole	402	496	520	419

Which of the metals has the smallest atomic radius? Explain. (2mks)

……

3. An element: $^{23}_{11}M$

(a) To which chemical family does it belong? ($^1/_2$mk)

……

(b) Write the electron arrangement of the atom. ($^1/_2$mk)

……

(c) Draw the structure of its ion. (1mk)

4. (a) Define electrolysis. (1mk)

……

…..…….....

(b) During the electrolysis of molten aluminium oxide, write the equations at the;
Anode -……. (1mk)

Cathode -……. (1mk)

5. In an experiment to determine the percentage purity of Sodium carbonate produced in the Solvay process, 2.15g of the sample reacted with exactly 40.0cm^3 of 0.5M Sulphuric (VI) acid. Determine the percentage purity of sodium carbonate in the sample. (3mks)

6. **Y** is a product of gaseous reaction which results in an equilibrium mixture being formed. **Reactants** $\rightleftharpoons$ **Y**

The percentage of **Y** in equilibrium at various temperatures and pressure is shown in the following table.

Temperature (^{0}C)	1 atm	100 atm	200 atm
550	**0.77**	**6.70**	**11.9**
650	**0.032**	**3.02**	**5.71**
750	**0.016**	**1.54**	**2.99**
850	**0.09**	**0.87**	**1.68**

Use this data to deduce, giving a reason for each case;

a) Whether production of Y is exothermic or endothermic. (2mks)

……

……

b) Whether production of Y **involves** an increase or a decrease in number of moles of gas present. (2mks)

……

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…….....

7. State and explain what is observed when moist red flowers are dropped in a gas jar containing Sulphur (IV) oxide gas. (3mks)

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8. A sample of water collected from **River Gucha** is suspected to contain sulphate ions. Describe an experiment that can be carried out to determine the presence of the sulphate ions. (2mks)

……

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……

9. During distillation in a laboratory the distillate can be collected either by a beaker or a conical flask.

(a) Define the term distillate. (1mk)

……

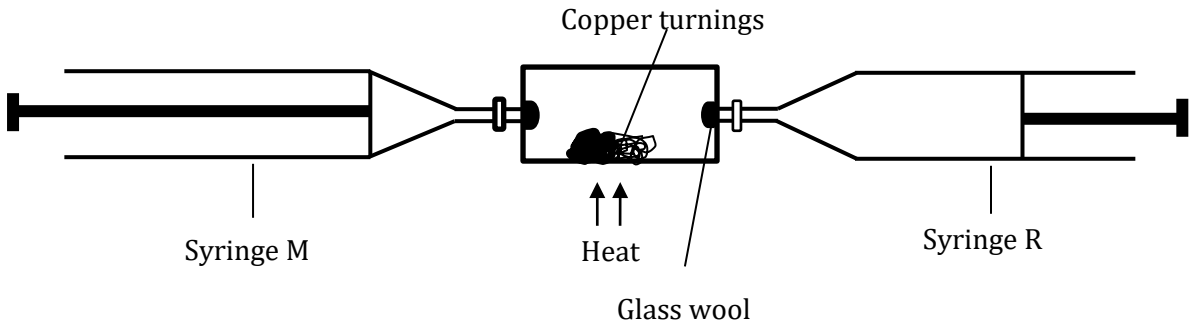
…….....

(b) Explain why a conical flask is the most preferred apparatus for the collection of the distillate. (1mk)

……

(c) Draw the diagram of a graduated conical flask. (1mk)

10. In an experiment to determine the proportion of oxygen in air, copper turnings were packed in excess in a long combustion tube connected to two syringes of 110cm^3 each in volume. At the beginning of the experiment, syringe R contained 110cm^3 of air while syringe **M** was closed and empty as shown.



Air was passed over the heated copper slowly and repeatedly until there was no further change in volume. 97.5cm^3 of air remained in syringe M.

(a) State and explain the observation made in the combustion tube. (2mks)

……

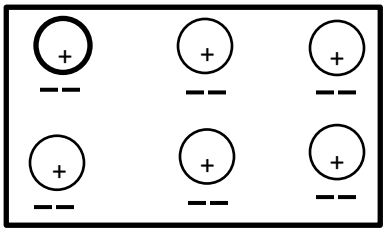
……

(b) If the volume of air in the **combustion tube** at the beginning of the experiment was 23.8cm^3 and at the end of the experiment reduced to 10cm^3, calculate the percentage of the active part of air. (2mks)

……

……

11. Below is a structure of an element X. Use it to answer the questions that follow.



(a) Name the chemical family to which element X belongs. Give a reason. (2mks)

……

……

(b) (i) Define covalent bond. (1mk)

……

……

(ii) Using dots (-) of cross (**x**) diagram, show bonding in Carbon (II) Oxide. (1mk)

12. (a) (i) State ***two*** allotropes of Carbon. (1mk)

……

……

(ii) Explain the differences in their densities. (2mks)

……

……

(b) (i) Name the process used for large scale production of Sodium Carbonate using brine as raw material. (1mk)

……

(ii) Write the overall chemical equation for the reaction in the carbonator. (1mk)

……

(c) Name two gases recycled in the above process (1mk)

……

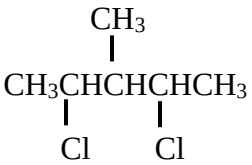
13. Name the following compounds using the IUPAC system. (3mks)

(i) $CH_3\ CH_2\ CH_2\ CH_2\ \underset{\underset{Br}{|}}{C}\ =\ \underset{\underset{CH_3}{|}}{CH}$

.....

(ii) CH_3CH_2OH

.....

(iii)


.....

14. Describe how to prepare Methane gas starting with soda lime (3mks)

……

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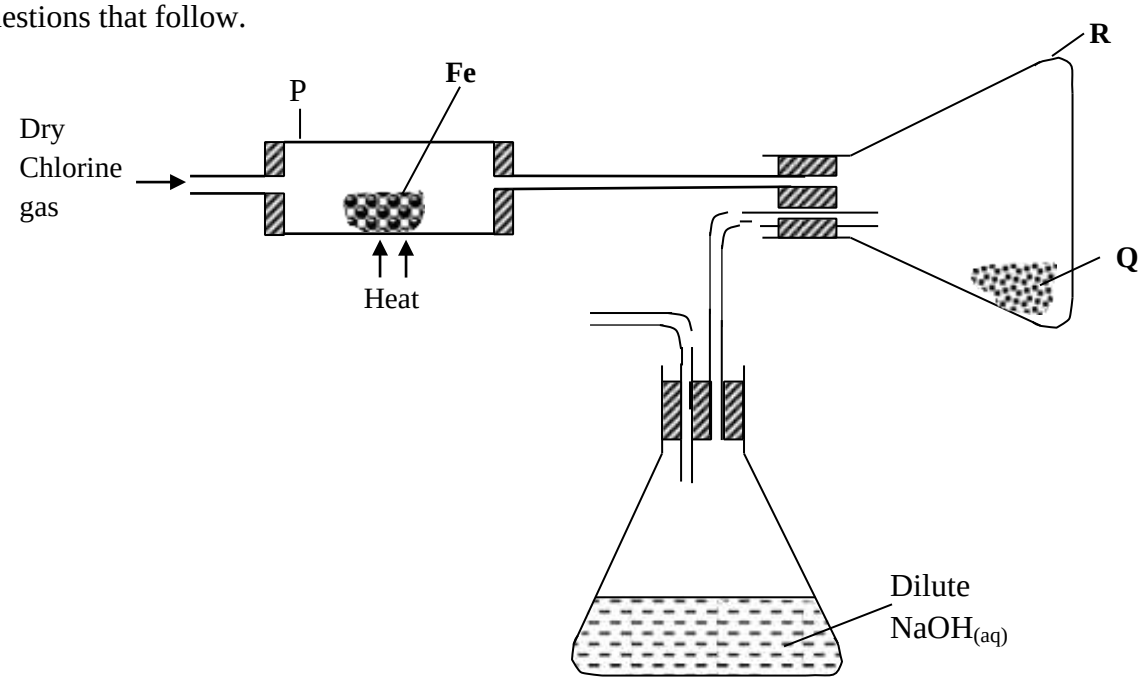
……

……

15. The diagram below shows how chlorine reacts with metals in the laboratory. Study it and answer the questions that follow.



(a) Name substance **Q**. (1mk)

……

(b) Give a reason why substance Q is not collected in the combustion tube P. (1mk)

……

……

(c)Write chemical equation for the reaction that occurs in the conical flask containing Sodium hydroxide. (1mk)

……

16. (a) Water sample is found to contain Mg^{2+},Cl^{-}, SO_4^{2-} , and Ca^{2+}. Identify the type of water hardness (1mk)

……

……

(b) Which type of detergent is more suitable with the water sample above. Give a reason (2mks)

(c) Permanent water hardness cannot be removed by boiling. Explain (1mk)

……

……

17. Starting with lead metal, write procedure on preparation of lead(II) nitrate crystals (3mks)

……

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18. The following chemical equations show the effects of heat on nitrates.

$2B(NO_3)_{2(s)} \longrightarrow 2BO_{(s)} + 4NO_{2(g)} + O_{2(g)}$

$2ANO_{3\,(s)} \longrightarrow 2ANO_{2(s)} + O_{2(g)}$

$2CNO_{3(s)} \longrightarrow 2C_{(s)} + 2NO_{2(s)} + O_{2(g)}$

a. Arrange elements A, B and C from the most reactive to the least reactive. ($1^1/_2$mks)

……

……

b. Give one example of element A, B and C.

($1^1/_2$mks)

……

……

……

19. Copper (II) sulphate crystals, a boiling tube, a test-tube, a beaker and other necessary requirements were used in an experiment to determine the type of change that occurred when the crystals were heated.

(a) Draw a labelled diagram to represent the set-up at the end of the first part of the experiment.

(3mks)

(b) After the second part of the experiment was done, state the conclusion that was made about the type of change undergone by copper (II) sulphate crystals when heated. (1mk)

……

20. (a). Distinguish between chromatography and a chromatogram. (1mk)

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……

(b) State the role of chromatography in the administration of international athletics competitions. (1mk)

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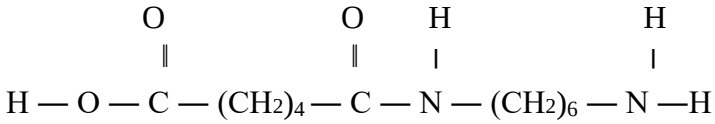
……

21. Study the polymer shown below.



a) Name the polymer. (1mk)

……

b) Identify two monomers that make up the polymer. (2mks)

……..

c) Give one use of the polymer (1mark)

……

……..

22. (a) State Charles law. (1mk)

……

……

……

(b) A gas occupies $450cm^3$ at 27^0C. What volume would the gas occupy at 177^0C if its pressure remains constant? (2mks)

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23. A colourless liquid was suspected to be water. State two ways to confirm.

(i) Purity of the water. (1mk)

……

……..

(ii) That the liquid was water. (2mks)

…….……

…….

24. Use the following information to answer the questions that follow

$\Delta H_{lattice}$ **$MgCl_2$ = +2493 kJ/ mol**

$\Delta H_{hydration}$ **Mg^{2+} = - 1920 kJ/ mol**

$\Delta H_{hydration}$ **Cl^- = -364 kJ/ mol**

a) Calculate the heat of solution of magnesium chloride. (2mks)

……

……

……..

b) Draw an energy level diagram for the dissolving of magnesium chloride (2mks)

25. i) A solution of aqueous sodium hydroxide is added to a gas jar of nitrogen (IV) oxide and shaken. State and explain the observation made (2mks)

……

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……..

ii) Write the chemical equation for the reaction above (1mk)

……

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END

EXTRACOUNTY MOCKS

CHEMISTRY

PAPER 2

Name……. Index Number:…….....

School ……..

Candidate's Signature……. Date……...……...

CHEMISTRY
PAPER 2
TIME: 2Hours

INSTRUCTIONS TO CANDIDATES

- Write your name and Index number in spaces provided above.
- Sign and write the date of examination in the spaces provided above.
- This paper contains 11 printed pages.
- Answer all the questions in the spaces provided above.
- KNEC Mathematical tables and silent electronic calculators may be used.
- All working must be clearly shown where necessary. ❖ Candidates should answer the questions in English.

FOR EXAMINERS USE ONLY

Question	Maximum score	Candidate's score
1	12	
2	07	
3	11	
4	13	
5	14	
6	11	
7	12	
Total score	80	

1. Below is part of the periodic table. The letters are not the actual symbols of the elements. Study it and answer the questions that follow.

							Q
C	E	G			L	N	
D	F						

a. i. State and explain the difference in the melting points of D and F (2mks)

……
……
……

ii. Explain the difference in the atomic radii of G and N. (2mks)

……
……
……

iii. Select the element that is the strongest reducing agent. Explain. (2mk)

……
……
……

iv. Compare the nature of the aqueous solution of the oxide of C and that of L. explain. (2mks)

……
……
……

b. Study the table below and answer the questions that follow.

SUBSTANCE	M.P(K)	B.P(K)	ELECTRICAL CONDUCTIVITY	
			SOLID	MOLTEN
J	365	463	NIL	NIL
K	1323	2773	GOOD	GOOD
L	1046	1680	NIL	GOOD
M	2156	2776	NIL	NIL

c. Which of the substances J, K, L and M represent the following;

i. Silicon (IV) oxide……

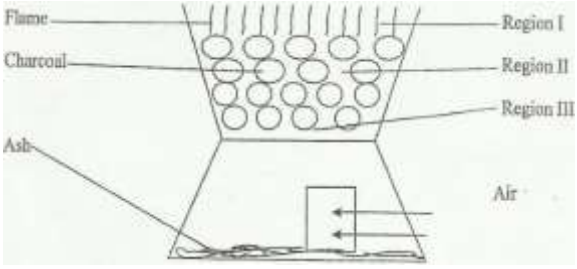
(1mk)

ii. Barium sulphate…… (1mk)

d. In terms of structure and bonding, explain why silicon (IV) Chloride ($SiCl_4$) is a liquid at room temperature while Magnesium ($MgCl_2$) is a solid.
(2mks)

……
……
……

2. The diagram below represents a charcoal burner. Study it and answer the questions that follow.



a. Write equations for the reactions taking place at (3mks)

I……

II……

III……

b. State the color of the flame. (1mk)

……

c. The ash that collects in the lower compartment was dissolved in water and filtered.
i. Suggest the PH of the solution. (1mk)
……

d. Carbon (II) oxide can be prepared in the laboratory by a process represented below.

$Con H_2SO_4$

$$(COOH)_2 \longrightarrow CO_{2(g)} + CO_{(g)} + H_2O_{(l)}$$

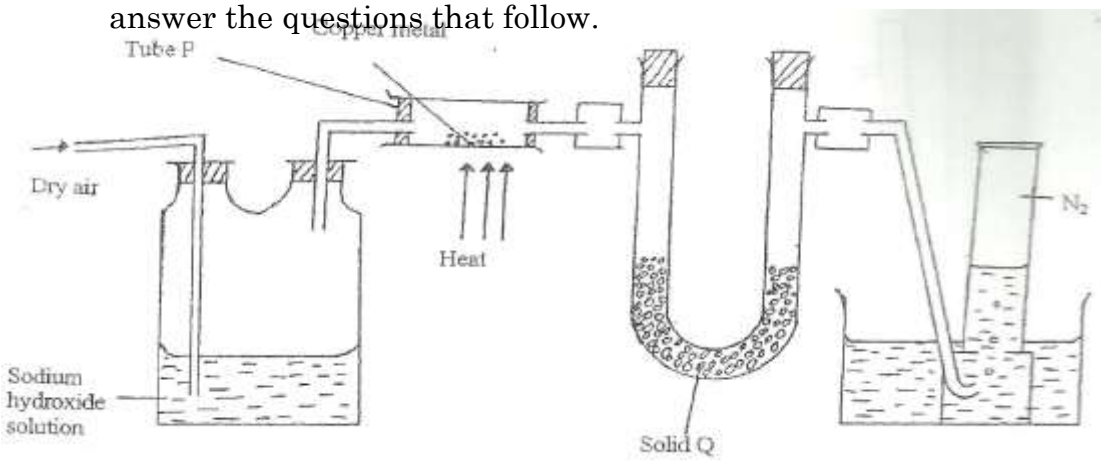
i. What role does concentrate Sulphuric (VI) acid play in the reaction.
(1mk)

……

ii. How would you remove carbon (IV) oxide from carbon (II) oxide? (1mk)

……

3. The diagram below represents a set-up that was to obtain dry nitrogen from air. Study it and
answer the questions that follow.



i. State the observation in the in the tube P (1mk)

……

…… ii. What is the purpose of $NaOH_{(aq)}$? (1mk)

……

iii. Write an equation for the reaction which took place in tube P
(1mk)

……

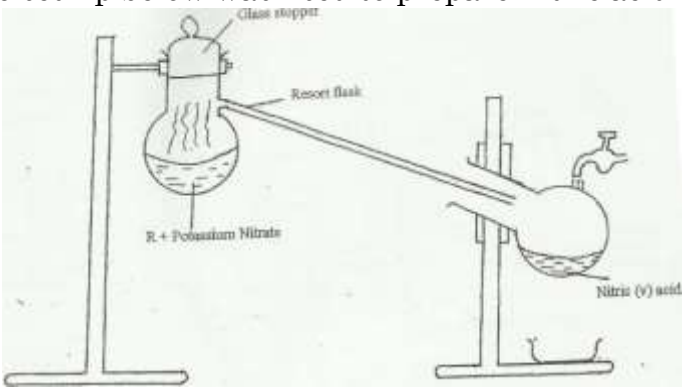
iv. Give the name of one impurity in the nitrogen gas obtained.
(1mk)

……

v. Why is liquid nitrogen used for storage of semen for artificial insemination?
(1mk)

……

b. The set-up below was used to prepare nitric acid



i. Give the name of liquid R (1mk)

……

ii. Write an equation for the reaction which took place in the glass retort.

(1mk)

……

iii. Explain the following

a. Nitric acid is not stored in transparent glass. (2mks)

……

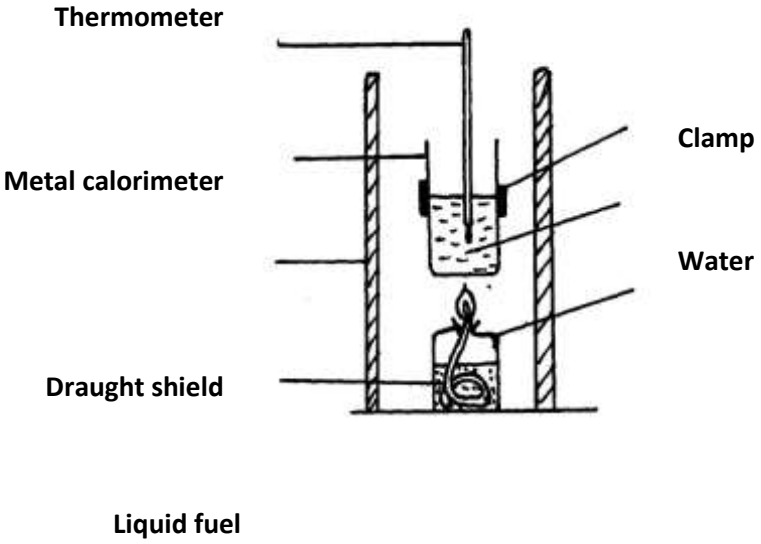
……

b. The reaction between copper metal with 50% nitric acid (one volume of acid added to an equal volume of water) in an open test tube forms brown fumes. (2mks)

……

……

4. The diagram below shows the set-up of the apparatus used by a student to determine the enthalpy change of combustion of ethanol. The heat produced by burning fuel warms a known mass of water.



Results

Volume of water in the beaker = 500 cm^3

Initial temperature of water= 12^0C

Final temperature of water = 31.5^0C

Mass of ethanol burnt = 1.50g

Density of water = 1 g/cm^3

Specific heat capacity = 4.2 $Jg^{-1}K^{-1}$

(a) Define molar heat of combustion. (1 mark)

……

……

(b) (i) Calculate the heat required to raise the temperature of the water from 12^0C to 31.5^0C. (2 marks)

(ii) Find the molar enthalpy of combustion of ethanol. (2 marks)

$(C = 12, H = 1, O = 16)$

(c) An accurate value for ΔH_C of ethanol is -1368 $kJmol^{-1}$. State two sources of errors for the
low figure obtained. (2 marks)

……

……

……

(d) Draw an energy level diagram for the combustion of ethanol. (3 marks)

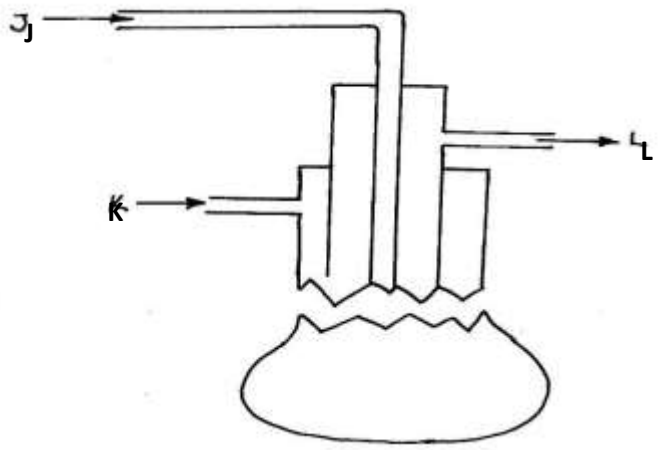
(e) Calculate the heating value of ethanol from the above experiment.
$(C = 12, H = 1, O = 16)$(2 marks)

(f) State one factor that one may consider when choosing kerosene as a fuel in Kisii town. (1 mark)

……

……

5. a) Sulphur is extracted from underground deposits by a process in which three concentric pipes aresunk down to the deposits as shown below



i. Give the name of the process mentioned above (1mark)

……

ii. State two physical properties of Sulphur that makes it to be extracted by this method (2marks).

.....

.....

iii. Why is it necessary to use superheated water in this process (1mark)

……

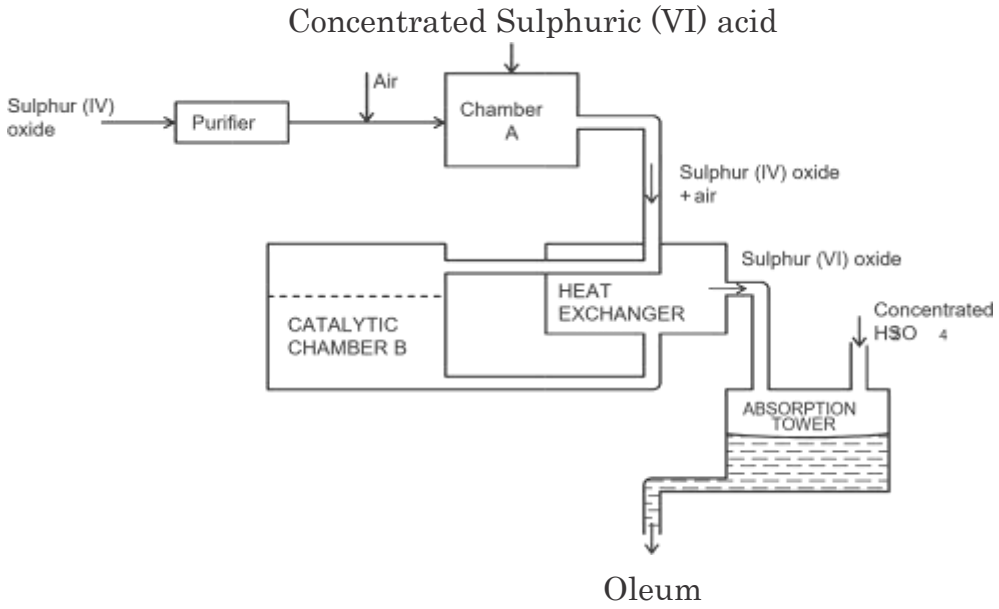
……

iv. During Frasch process molten sulphur flows out through the middle pipe but not through the outer pipe. Give a reason (1mark)

……

……

b. The diagram below shows part of the processes in the manufacture of sulphuric (VI) acid. Study and answer the questions that follow.



i. Write an equation for the formation of Sulphur (IV) oxide from Sulphur. (1mk)

……

ii. What is the role of concentrated sulphuric (VI) acid in chamber A.(1 mark)

……

iii. Name two catalyst that can be used in the catalytic chamber B.(2 marks)

……

iv. Give two reasons why during the manufacture of sulphuric (VI) acid, Sulphur (VI) Oxide, is dissolved in concentrated Sulphuric (VI) acid instead of dissolving in water (2 marks)

……

……

c. Explain one way in which Sulphur (IV) oxide is a pollutant. (1mark)

……

……

d. What observation will be made when a few drops of concentrated sulphuric (VI) acid are
added to crystals of sugar? Explain your answer. (2marks)

……

……

6. (a) Define solubility. (1 mark)

……

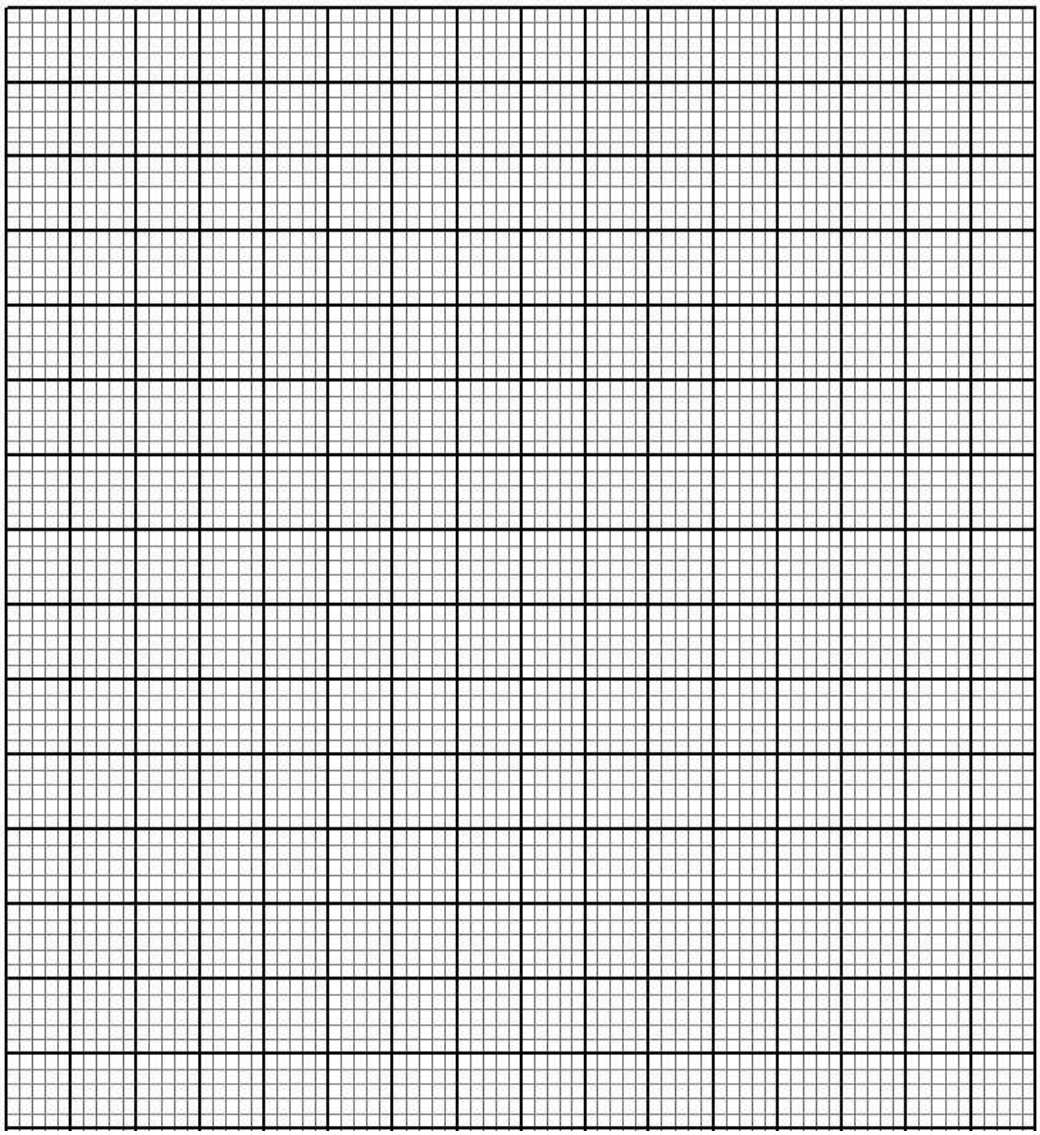
……

……

(b) The table below shows solubility of two salts X and Y at varying temperatures.

Temperature (^{0}C)	10	20	30	40	50	60	70	80	90
Solubility of Y (g/100g water)	70.0	66.0	63.0	60.0	59.0	56.5	54.5	53	51
Solubility of X (g/100g water)	12.0	18.0	24.0	31.0	38.0	48.0	51.0	74.0	88.0

(i) Draw the graph of solubility against temperature. (3 marks)



(ii) At what temperature is the solubility of both X and Y the same? (1 mark)

……

(iii) Which of the substances X and Y is likely to be a gas? Explain. (2 marks)

……

……

(iv) What is the mass of Y that would dissolve in 50g of water at 48^0C? (1 mark)

(v) Determine the solubility of salt X at 55^0C? (2 marks)

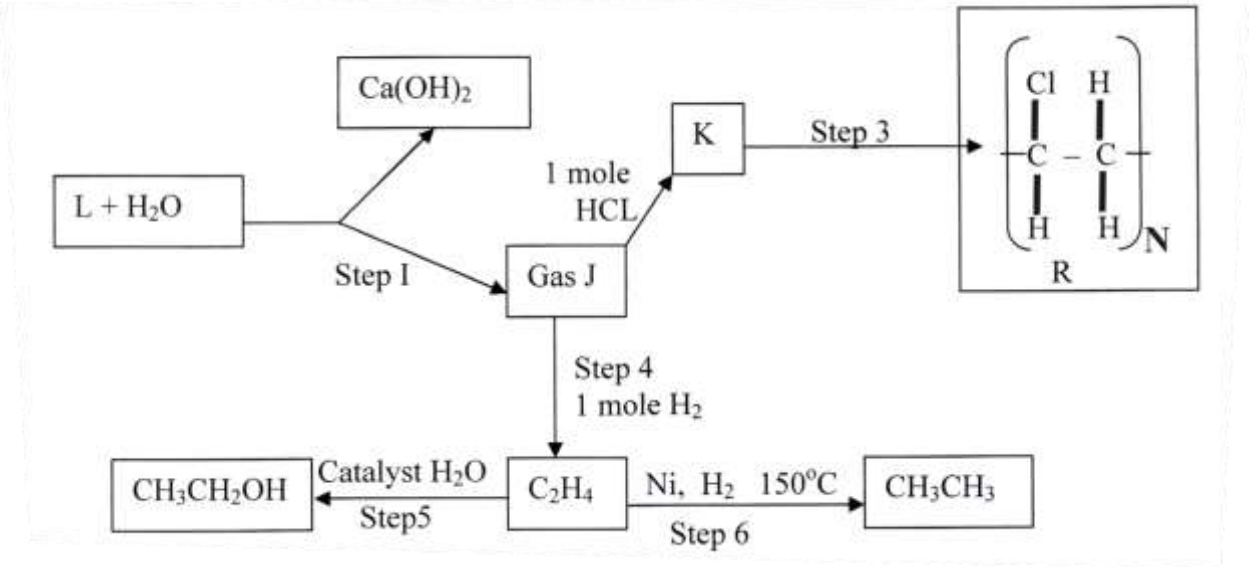
……

……

(vi) State one application of solubility. (1 mark)

……

7. Study the flow chart below and answer the questions that follow.



i) Identify reagent L (1mk)

……

ii) Name the catalyst used in step 5 (1mk)

……

iii) Draw the structural formula of gas J (1mk)

iv) What name is given to the process that takes place in step 5 (1mk)

……

v) State:

a) One use of product R (1mk)

……

b) (i) Write the equation for the reaction between aqueous sodium hydroxide and aqueous ethanoic acid (1mk)

……..

(ii) Explain why the reaction between 1g of sodium carbonate and 2M hydrochloric acid is faster than the reaction between 1g of sodium carbonate and 2M ethanoic acid. (2mks)

……

……

(c) Larger alkanes can be broken down into smaller molecules

i) Give the name for the process (1mk)

……

ii) Apart from smaller chain alkanes mention the other two smaller molecules (1mk)

……

(d) Give the systematic names of the following compounds:

i) $CH_2 = C(CH_3)-CH_3$ …… (1mk)

ii) CH_3CHCH…… (1mk)

EXTRACOUNTY MOCKS

CHEMISTRY CONFIDENTIAL

PAPER 3

INSTRUCTIONS TO SCHOOLS

Apart from the usual laboratory fittings, each student should have the following;

1. About 0.5g of Solid Q in a stoppered container
2. About 0.5g of Solid R in a stoppered container
3. 100cm^3 of solution S
4. 100cm^3 of solution T 5. 100cm^3 of solution P
6. Distilled water.
7. About a spatula end-full of solid Calcium hydroxide
8. Red litmus paper
9. Three 250ml conical flasks
10. One burette 0 – 50ml
11. One pipette 25ml
12. One 50ml measuring cylinder
13. One 10ml measuring cylinder
14. One 250cm^3 volumetric flask
15. Phenolphthalein indicator
16. Labels (2)
17. Stop watch
18. Two boiling tubes
19. One metallic spatula
20. Five test tubes on a test-tube rack
21. Wooden splint
22. Test tube holder

The student should also get access to;

1. 10% Hydrogen peroxide (freshly prepared + dropper).
2. 2M Barium nitrate solution + dropper.

3. 0.5M Hydrochloric acid + dropper.
4. Source of heat.

5. Sodium hydrogen carbonate
6. Acidified Potassium manganate (VII)
7. Acidified Potassium dichromate (VI)

NOTES

Solid Q is Hydrated ferrous ammonium sulphate.

Solid R is Maleic acid

Solution S is prepared by weighing exactly 4.8g of sodium carbonate dissolve it to make $1dm^3$ of solution.

Solution T is prepared by weighing exactly $172cm^3$ of hydrochloric acid (35-37% sp.gr 1.18) and dissolving to make $1dm^3$ of solution.

Solution P is prepared by weighing exactly 37.2g of sodium thiosulphate pentahydrate and dissolving to make $1dm^3$ of solution.

EXTRACOUNTY MOCKS

CHEMISTRY

PAPER 3

Name……. Index Number:…….…….....

School……

Candidate's Signature……. Date……...……...

CHEMISTRY
PAPER 3
TIME: 2 1/4 Hours

Instructions to candidates

a. *Write your name, class, admission number, index number, signature and date in the spaces provided above.*
b. *Answer ALL the questions in the spaces provided in the question paper.*
c. *You are not allowed to start working with the apparatus for the first 15 minutes of the 2 ¼ hours allowed for this paper. This time is to enable you to read the question paper and make sure you have all the chemicals and apparatus that you may need.*
d. *All working MUST be clearly shown where necessary.*
e. *Mathematical tables and silent electronic calculators may be used.*
f. *This paper contains 8 printed pages.*

For Examiner's Use Only

Question	Maximum Score	Candidate's Score
1	23	
2	10	
3	07	
Total Score	40	

1. You are provided with:-

- Solution **T**, 2M Hydrochloric acid.
- Solution **P**, 0.15M Sodium thiosulphate
- Solution **S,** Sodium carbonate

Procedure 1

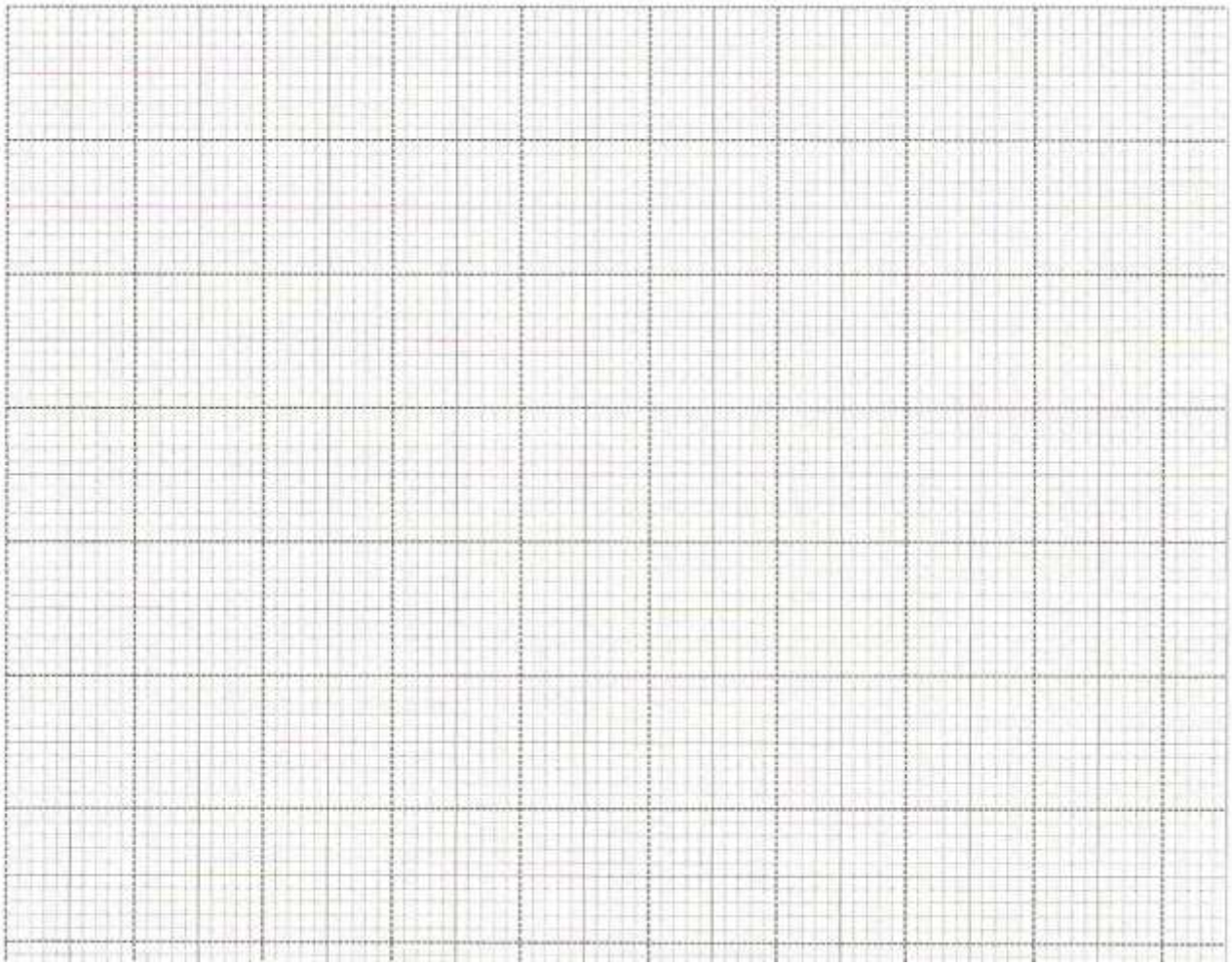
Measure 20cm^3 of 0.15M Sodium thiosulphate (solution **P**) into a 250cm^3 a conical flask. Place the beaker on a white piece of paper with **ink mark** '**X**' on it. Measure 20cm^3 of 2M hydrochloric acid solution **T** using a 50cm^3 measuring cylinder. Put the acid into the conical flask containing Sodium thiosulphate and immediately start off the stop watch. Determine the time taken for the **mark** '**X**' to become invisible /obscured when viewed from above. Repeat the procedure by measuring different volumes of the acid and adding the volumes of the distilled water to complete Table I below.

Table I

Volume of acid (cm^3)	**Volume of water (cm^3)**	**Volume of sodium thiosulphate (cm^3)**	**Time taken for mark 'X' to be invisible/obscured (seconds)**	**Reciprocal of time (sec^{-1})** $\frac{1}{t}$
20	**0**	**20**		
18	**2**	**20**		
16	**4**	**20**		
14	**6**	**20**		
12	**8**	**20**		
10	**10**	**20**		

a) Complete the table above (6 marks)

b) Plot a graph of 1/t (rate) against volume of acid used. (3 marks)



c) Explain the shape of your graph (1 mark)

……

……

……

d) From the graph determine

(i) Time taken for the cross to be obscured/invisible when the volume of the acid is:

I) $15cm^3$ (1 mark)

.....

……

II) $8cm^3$ (1 mark)

.....

.....

(ii) The volume of the acid used if the time taken for the cross to be obscured/invisible is:

I) 40 seconds (1 mark)

……

……

II) 43 seconds (1 mark)

……

……

Procedure 2

Using a 10 cm^3 measuring cylinder, place 10 cm^3 of solution T into a 250 ml volumetric flask. Add about 200 cm^3 of distilled water. Shake well. Add more distilled water to top up to the mark. Label this solution U. Fill the burette with solution U. Using a pipette and pipette filler, pipette 25 cm^3 of solution S into a conical flask. Add 3 drops of Phenolphthalein indicator and titrate with solution U.

- Record your results in the table.
- Repeat the titration two more times and complete the table.

Table 2

	I	II	III
Final burette reading (cm^3)			
Initial burette reading (cm^3)			
Volume of solution U (cm^3) added			

(4 marks)

a) Determine the:-

(I) Average volume of solution U used. (1 mark)

……

……..

……

(II) Moles of the acid in the average volume of solution U used. (2 marks)

……

……

……

(IV) Concentration of solution S in moles per litre. (2 marks)

……...

……...

……

……

2. (a) Put a spatula end-full of solid Q into a boiling tube and add about $10cm^3$ of distilled water. Shake the mixture well. Divide the resultant solution into 4 equal portions.

Observations	**Inferences**
(½ mark)	(1 mark)

(b) (i) The solution is suspected to contain **ammonium ions**. Using **calcium hydroxide soli**d and **red litmus paper** provided, describe how you would confirm presence of the **ammonium ions**.

Description	**Expected observations**
(1 mark)	(½ mark)

(ii) Carry out the actual test as described in (b) (i) above.

Observations	**Inferences**

(1 mark)	(½ mark)

(c) To the second portion, add 4 drops of hydrogen peroxide solution. Test the gas produced using a glowing splint.

Observations	**Inferences**
(1 mark)	(1 mark)

(d) (i) The solution is also suspected to contain **sulphite ions**. Using **Barium nitrate solution** and **dilute hydrochloric acid** solution, describe how you would confirm presence of the **sulphite ions**.

Description	**Expected observations**
(1 mark)	(1 mark)

(iii)Carry out the actual test as described in (d) (i) above.

Observations	Inferences
(1 mark)	(½ mark)

3. You are provided with solid R. Carry out the tests below and record your observations and inferences in the spaces provided.

(i) Place one third of solid R on a metallic spatula. Burn it in a non-luminous flame of the Bunsen burner.

Observation	Inference
) (1 mark)	(1 mark

(ii) Place the remaining solid in a test-tube. Add about $6cm^3$ of distilled water and shake the mixture well. Retain the solution for the next procedure.

Observation	Inference
mark) (1/2 mark)	(1/2

(I)To about $2cm^3$of the solution, add 2 drops of acidified potassium manganate (VII).

Observation	**Inference**
(1 mark)	(1 m

ark)

(II)To about $1cm^3$ of the solution, add 3 drops of acidified potassium dichromate (VI) and warm.

Observation	**Inference**
(1/2 mark)	(1/2

mark)

(III) To about $2cm^3$ of the solution, add 1g of sodium hydrogen carbonate.

Observation	**Inference**
(½ mark)	(½ m

ark)

EXTRACOUNTY MOCKS

PHYSICS

PAPER 1

Name……. Index Number:…….…….

School……

Candidate's Signature……. Date…….....

CHEMISTRY

PAPER 1

TIME: 2Hours

INSTRUCTIONS TO STUDENTS

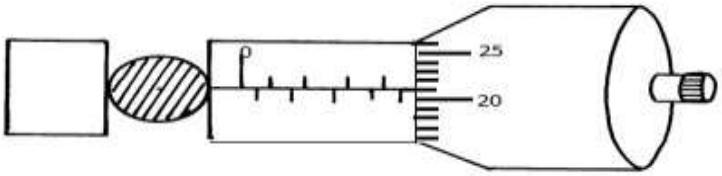
a) Write your name and admission number in the spaces provided.
b) Answer all questions in this question paper.
c) All your answers and working must be written in the spaces provided in this question paper.
d) This paper consists of **13 printed pages.**
e) All questions must be answered in English.

FOR EXAMINERS USE ONLY

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1-12	25	
B	13	15	
	14	06	
	15	09	
	16	11	
	17	08	
	18	07	
TOTAL SCORE		80	

SECTION A(25MKS)

1. A spherical ball bearing of mass 0.0024 kg is held between the anvil and spindle of a micrometer screw gauge. The reading on the gauge when the jaws are closed without anything in between is 0.11mm. Use this information and the position of the scale in the figure below to answer the questions **(a)** and **(b)** below:



a) What is the diameter of the ball bearing? (2 marks)

……

……

……

b) Find the density of the ball bearing. (3 marks)

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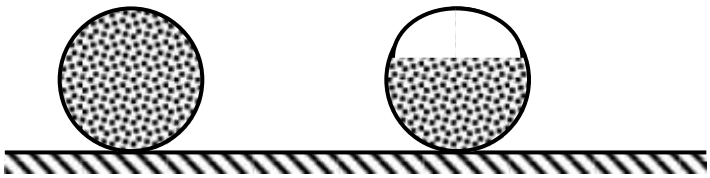
2. Figure below shows two identical hollow spheres. Sphere A is completely filled with the liquid while B is partially filled with an identical liquid.



When the two spheres are rolled on a horizontal surface, it is observed that the sphere B stops earlier than sphere A. Explain this observation. (2 marks)

……

……

3. Diffusion in gases is faster than in liquids; state two reasons why this is so. (2 marks)

……
…

……

4. A rod consists of glass on one part and copper on the other. The rod is wrapped with a piece of paper and then a flame passed below it. It is observed that the paper on the side with glass is charred while that on the side of copper is not. Explain this observation.

(1 mark)

……

……

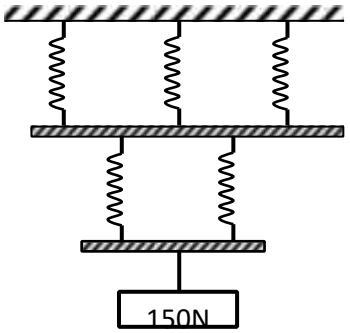
5. A needle may float on clean water but sinks when a detergent is added. Explain. (1 mark)

……

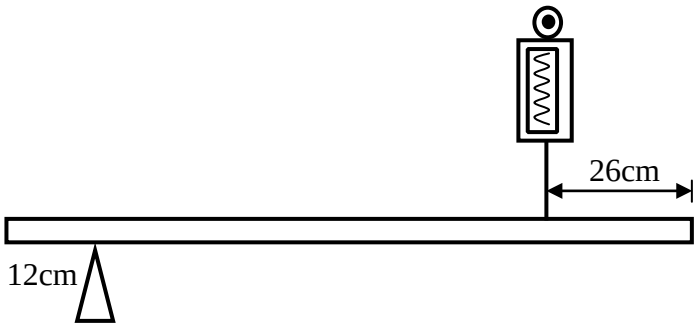
……

6. A body is projected vertically upwards from the top of a building. Assuming that it lands at the base of the building. Sketch the velocity time graph of the motion. (2mks)

7. The spiral springs shown in the figure below are identical. Each spring has a constant K = 300N/m.Determine the extension caused by the 150N weight (Ignore weight of springs and connecting rods) (3 marks)



8. A uniform 120m metal rod is pivoted near one of its ends and kept in equilibrium by a spring balance as shown in figure below.



The reading indicated by the spring balance is 2.0N. Work out the mass of the metal rod. (g = 10N/kg) (3 marks)

……

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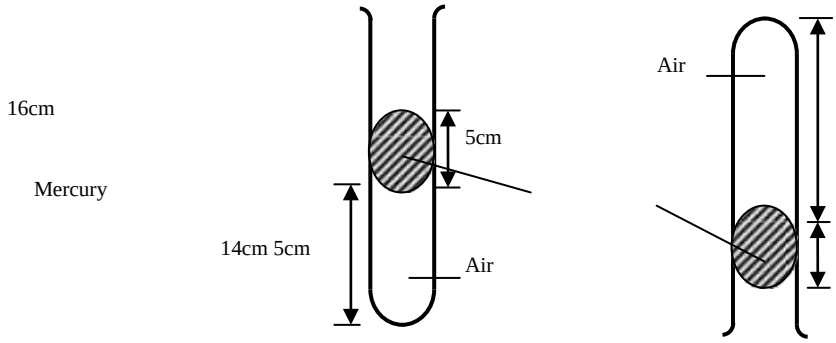
9. Air is trapped in a thin capillary tube by a thread of mercury 5cm long as shown in figure below.



Use the information in figure to calculate the value of atmospheric pressure in mmHg (2 marks)

……

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……

……

……

10. State a reason why an air bubble increases in volume as it rises up the surface in a boiler. (1 mark)

……

……

11. An electric kettle with shiny outer surface is more efficient than one with a dull outer surface, give a reason for this. (1 mark)

……

……

12. A pipe of radius 3mm is connected to another pipe of radius 9mm. If water flows in the water pipe at a speed of $2ms^{-1}$, what is the speed in the narrower pipe (2 marks)

……

……

……

……

SECTION B (55MKS)

13. (a) The moon goes round the earth at constant speed. Explain why it is true to say that the moon is accelerating. (1 mark)

……

……

(b) A string of negligible mass has a bucket tied at the end. The string is 60cm long and the bucket has a mass of 45g. The bucket is swung horizontally making 6 revolutions per second.

Calculate:

(i) The angular velocity. (2 mark)

……

……

……

……

……

(ii) The centripetal acceleration. (2 marks)

……

……

……

……

(iii) The tension on the string. (2 marks)

……

……

……

……

……

(iv)The linear velocity. (2 mark)

……

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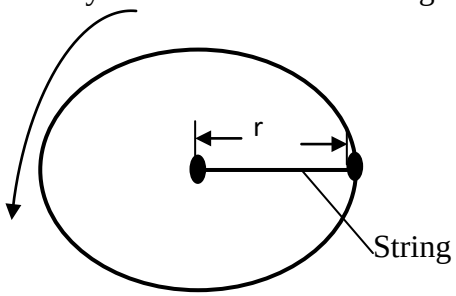
……

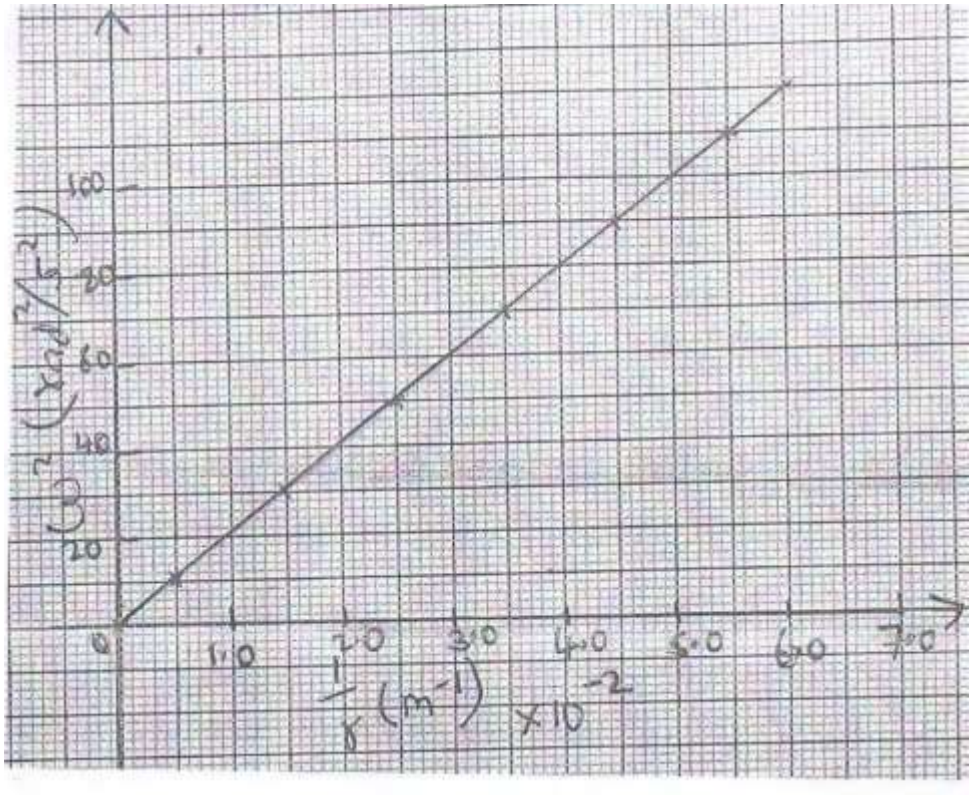
……

(c) Figure below shows of mass m = 200g attached to the centre of a rotating table with a string. The radius of the spring was varied and different values of angular velocity recorded.

The mass of the body remained constant throughout the experiment.



The results obtained for angular velocity and radius were used to plot the following graph.



From the graph above;

(i) Calculate the value of the slope. (3 marks)

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……

……

……

(ii) If ω^2 and $\frac{1}{r}$ are related by the equation; $\omega^2 = \frac{p}{r} \times \frac{1}{m}$, find the value of P. (2 marks)

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……

……

……

(iii) State the significance of **P**. (1 mark)

……

……

14. (a) State the Law of floatation. (1 mark)

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……

……

(b) A block of length 50cm, cross-sectional area of 5cm^2 and density 1.4g/cm^3 is completely immersed in a liquid of density 1.08g/cm3 find;

(i) The mass of the block (2 marks)

……

……

……

……

(ii) The weight of the block in the liquid. (3 marks)

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15. (a) Define the term heat capacity (1mark)

……

……

(b) A block of metal of mass 150g at 100^{o}C is dropped into a logged calorimeter of heat capacity 40Jk^{-1} containing 100g of water at 25^{o}C. The temperature of the resulting mixture is 34^{o}C. (Specific heat capacity of water = 4200J/Kg/K)

Determine: -

(i) Heat gained by calorimeter (2marks)

……

……

……

……

……

(ii) Heat gained by water (2 marks)

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(iii) Heat lost by the metal block (1mark)

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……

(iv) Specific heat capacity of the metal block (3marks)

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16. a) (i) Define velocity ratio of a machine. (1 mark)

……

……

(ii) Draw a labeled diagram of a pulley system with a velocity ratio of 5.

(2 marks)

(iii) Suggest any two possible reasons why the efficiency does not reach the 100% mark. (2 marks)

……

……

(b) The effort piston of a hydraulic machine is of radius 2.8 cm, while that of the load piston is of radius 14cm. The machine raises a load of 120 kg at a constant velocity through 2.5m. If the machine has an efficiency of 80%, find:-

(i) The velocity ratio of the hydraulic machine. (2 mark)

……

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……

(ii) The mechanical advantage of the hydraulic machine. (2 marks)

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(iii) The effort needed to raise the load. (2 marks)

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17. (a) (i) State Newton's second law of motion. (1 mark)

……

……

……

……

(ii) A striker kicks a ball of mass 250g initially at rest with a force of 75N. If the foot was in contact with the ball for 0.10sec. Calculate the take off velocity of the ball. (2 marks)

……

……

(b) A bullet of mass 20g moving at 400 m/s strikes a block of wood of mass 3.5kg initially at rest. The bullet sticks into the block and the two move off together on a horizontal surface.

(i) Determine the initial common velocity of bullet and wooden block. (2 marks)

……

……

……

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……

(ii) What is the deceleration given the retarding force is 4 N? (3 marks)

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……

18. (a) State what is meant by an ideal gas (1mk)

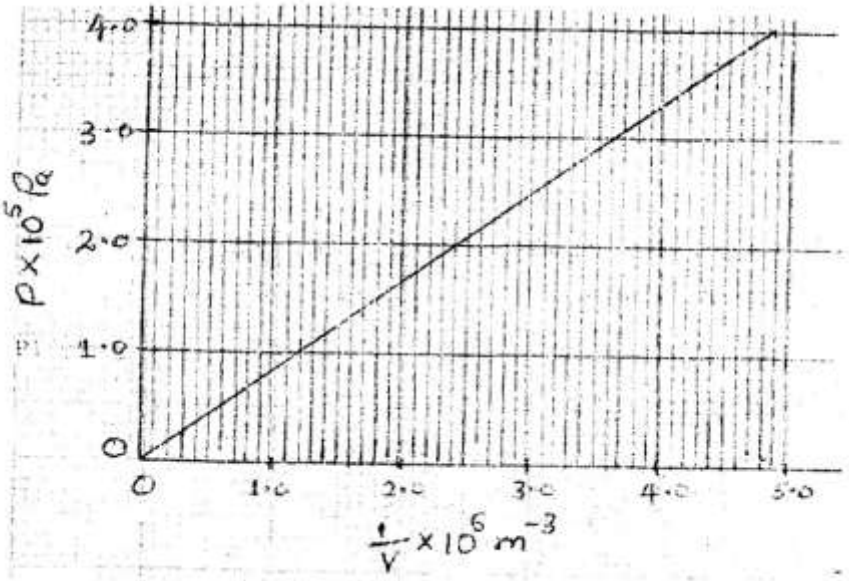
……

……

……

……

(b) The pressure acting in a gas in a container was changed steadily while the temperature of the gas was maintained constant. The value of volume V of the gas measured various values of pressure. The graph in the figure A shows the relation between the pressure P1 and the reciprocal of volume 1/V



Given that the relation between the pressure P1 and the value, V1 of the gas is given by PV = k Where k is a constant, use the graph to determine the value k (3marks)

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(c) A gas occupies a volume of 4000 litres temperature of 37°C and normal atmosphere pressure. Determine the new volume of the gas if it is heated at constant pressure to a temperature of 67°C (normal atmosphere pressure P = 1.01×10^5pa) (2marks)

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EXTRACOUNTY MOCKS

PHYSICS

PAPER 2

NAME _____ INDEX NO. _____

SCHOOL _____ SIGNATURE _____

DATE _____

232/2
PHYSICS
PAPER 2
(THEORY)
TIME: 2 HRS

INSTRUCTIONS

1. Write your name, school and your index number in the spaces provided.
2. Sign and write the date of examination in the spaces provided above.
3. This paper consists of **two** sections, Section **A** and **B.** Answer **ALL** the questions in both sections in the spaces provided in this paper.
4. **ALL** working must be clearly shown.
5. KNEC mathematical tables and non-programmable silent electronic calculators **may be** used.
   Note: Take acceleration due to gravity g = 10m/s^2

FOR EXAMINER'S USE:

SECTION	QUESTION	MAXIMUM SCORE	STUDENTS SCORE
A	**1-12**	**25**	
B	**13**	**12**	
	14	**11**	
	15	**13**	
	16	**08**	
	17	**11**	
	TOTAL	**80**	

This paper consists of 13 printed pages

Candidates should check to ensure that all pages are printed as indicated and no questions are missing

SECTION A (25 MARKS)

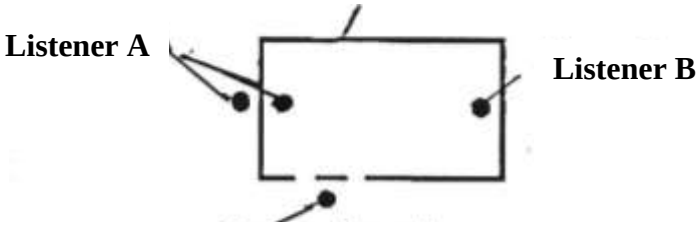
Answer ALL the questions in this section in the spaces provided.

1. State any **one** condition under which a pinhole camera may form an image on its screen which has the same size as the object. (1 mark)

_____

_____

2. The source of sound and two listeners are positioned close to a tall building as shown in the figure below.



i) State the property of sound by which Listener A is able to hear the sound produced. (1 mark)

_____

ii) Listener **B** is moving directly towards Listener **A** and has a problem hearing the sound produced. Explain. (2 marks)

_____

_____

_____

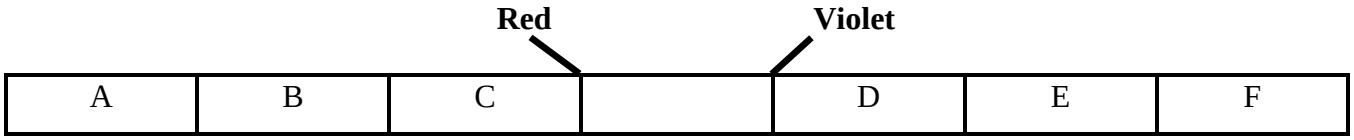
3. Give **two** differences between a transformer and induction coil. (2 marks)

_____

_____

_____

4. The figure below shows some region of part of the electromagnetic spectrum.



i) Name the region that is detected by a blackened bulb thermometer. (1 mark)

_____

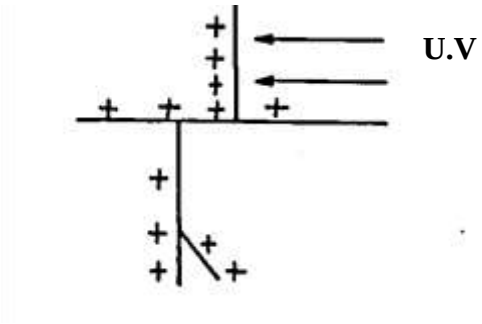
ii) State **one** use of the E-M wave in the region labelled **B.** (1 mark)

_____

_____

iii) State **one** application of Radio waves (1 mark)

5. The figure below shows ultraviolet light striking a clean Zinc plate on a positively charged leaf electroscope.



Explain the following observations:

i) The leaf does not fall. (1 mark)

_____

_____

_____

ii) When the same experiment is carried with a negatively charged electroscope, the leaf falls. (1 mark)

_____

_____

_____

6. A girl observes her face in a concave mirror of a focal length 90cm. If the mirror is 70cm away, state **two** characteristics of the image observed. (2 marks)

_____

_____

_____

7. The ammeter in the circuit in figure 3 has negligible internal resistance. The cell has an internal resistance of 0.5Ω and an electromotive force of 3.0V.

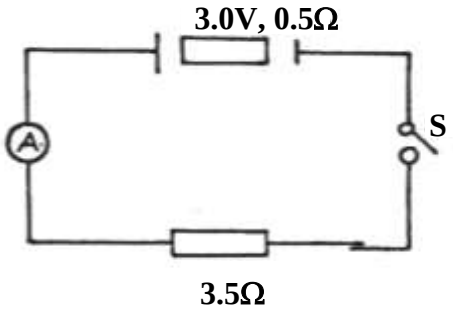


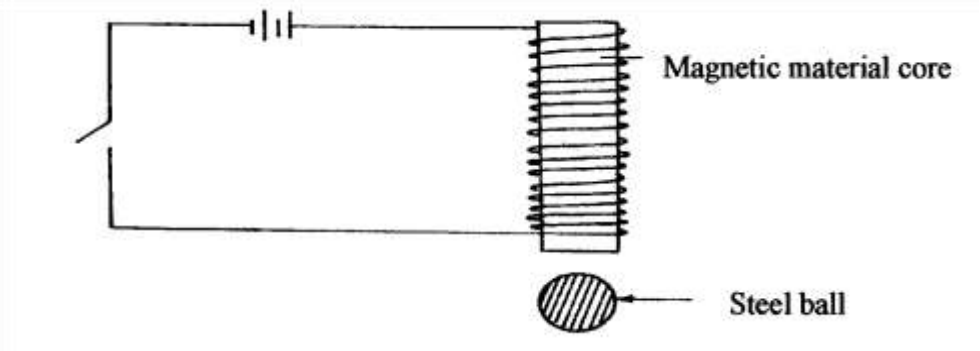
Figure 3

Determine the value of current the ammeter registers when switch S is closed. (2 marks)

8. An electric heater is rated 3 kW. Find the electrical energy in kWh(kilo watt- hours) consumed by the heater when used on a 240V supply for 180 minutes. (2 marks)

9. An echo sounder produces a pulse and an echo is received from the seabed after 0.4 seconds. If the speed of sound in water is 1500m/s. Calculate the depth of the sea bed. (2 marks)

10. The set up in figure 4 below can be used in a laboratory for lifting and releasing a steel ball.



i) State the material which is suitable for use in the core. (1 mark)

_____

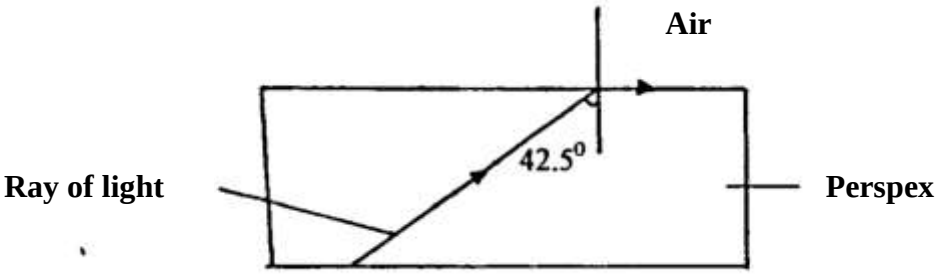
iii) If a slightly larger ball is to be lifted, it is necessary to make an electromagnet stronger. Name **two** ways of increasing the strength of the magnet. (2 marks)

_____

_____

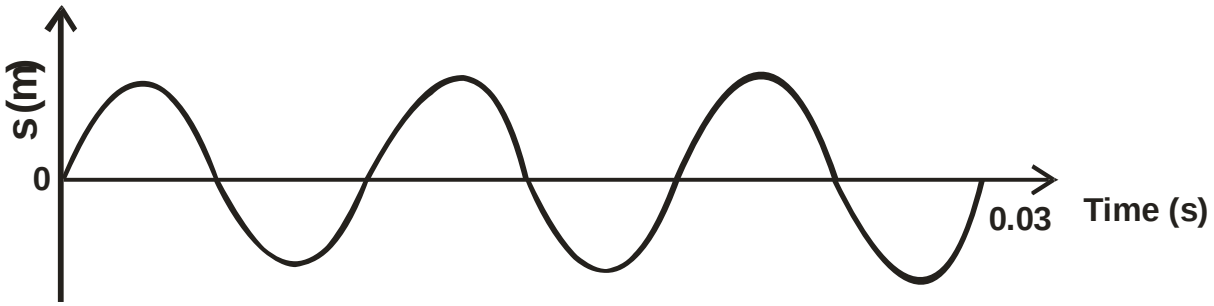
_____

11. The figure 5 below shows the path of a ray of light passing through a rectangular block of Perspex placed in air.



Calculate the refractive index of Perspex. (2 marks)

12. The sketch shown below is a displacement-time graph of a wave traveling at $320ms^{-1}$



Find the wavelength of the wave. (2 marks)

SECTION B (55 MARKS)

Answer ALL the questions

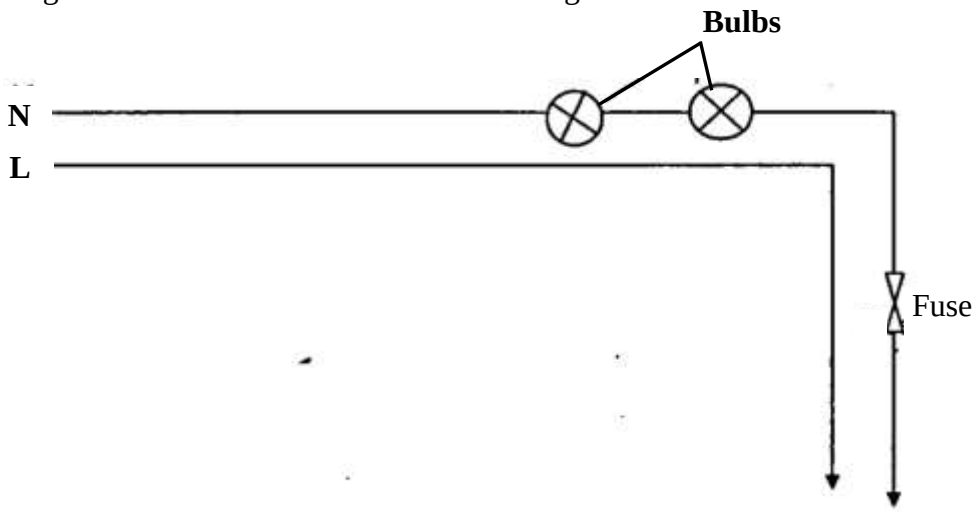
13. a) The mains electricity is transmitted through high tension voltage (H.T).

State **one** danger of this transmission. (1 mark)

_____

_____

b) The figure shows a section of a domestic wiring.



i) Identify **two** serious mistakes in the circuit. (2 marks)

_____

_____

_____

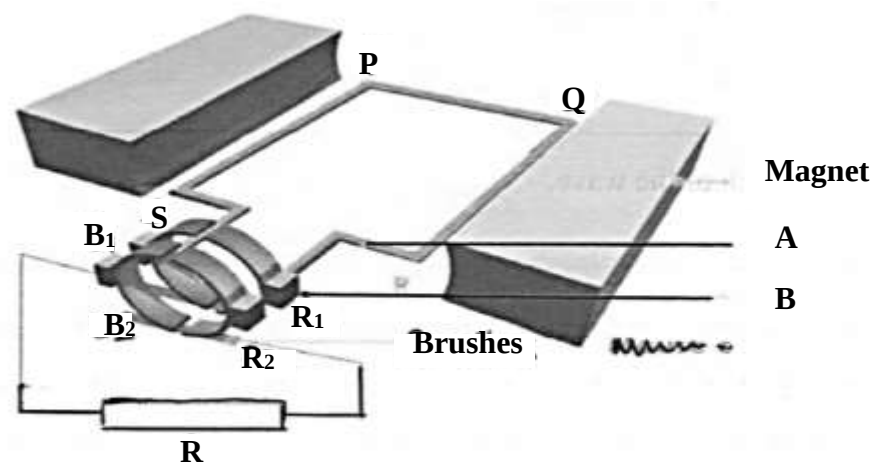
ii) Explain why the circuits in domestic wiring should be connected in parallel with the main supply. (2 marks)

_____

_____

_____

c) Study the figure shown below



i) State the name of the machine shown in figure above. (1 mark)

_____

ii) What are the names of the parts labelled A and B? (2 marks)

A _____

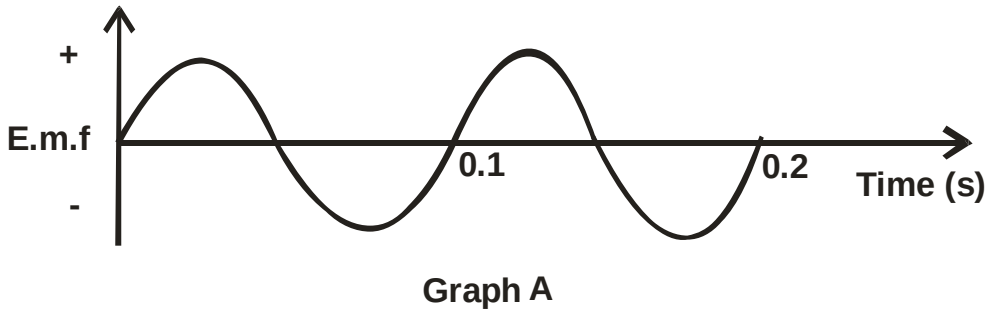
B _____

iv) What would be the effect of doubling the number of turns of the coil if the speed of rotation remained unchanged? (1 mark)

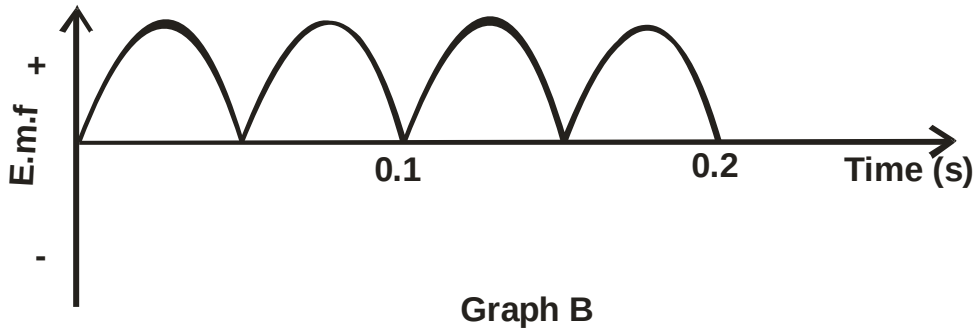
_____

_____

d) The voltage-time signals obtained is as shown in the diagram below in graph A



Graph A

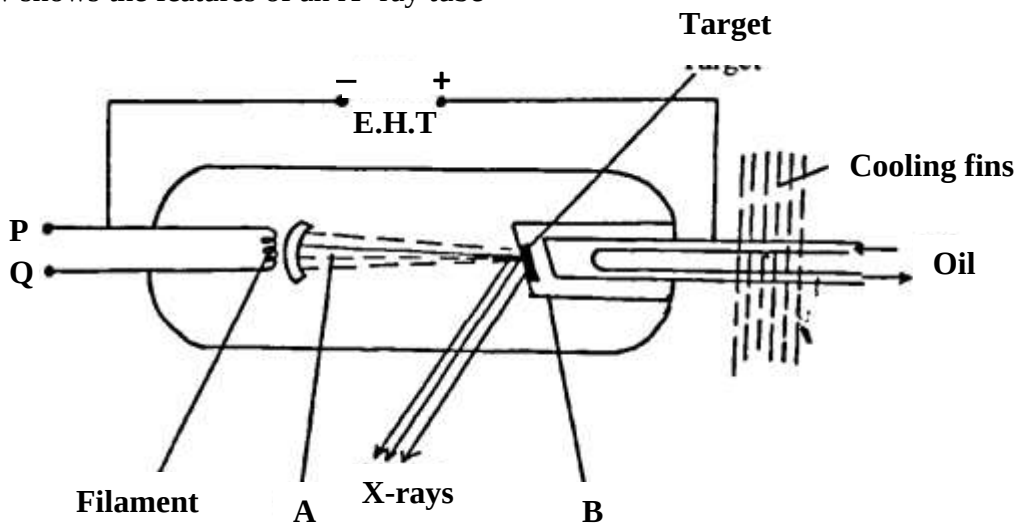


Graph B

i) Find the frequency of the alternating E.m.f shown by graph A. (2 marks)

ii) What alterations have been made to the machine in c) above to produce the emf represented by graph B? (1 mark)

The figure below shows the features of an X- ray tube



a) Name the parts labelled A and B. (1 mark)

A _____

B _____

b) Explain how a change in the potential across PQ changes the intensity of the X-rays produced in the tube. (2 marks)

_____

_____

_____

_____

c) What property of lead makes it suitable for use as shielding material? (1 mark)

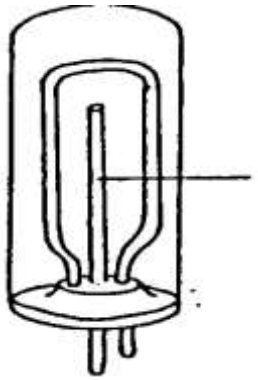
_____

_____

d) In an X-ray tube operating at 100kV, the tube current is 20mA. Determine the number of electrons hitting the target every second. (2 marks)

(Charge of an electron = 1.6×10^{-19}C)

e) The figure below shows a cell. Use it to answer questions that follow:



i) Name the type of cell. (1 mark)

_____

ii) Label the cathode. (1 mark)

iii) The maximum kinetic energy of the photo-electrons emitted from a metal surface is 9.95×10^{-20}J. If the threshold frequency of light required to cause photo-electric emission with this metal is 5×10^{14} Hz. Calculate the frequency of the incident radiation. (Plank's constant = 6.63×10^{-34} JS) (3 marks)

14. a) i) Explain why carbon -14 ($^{14}_{6}C$) is radioactive while carbon ($^{12}_{6}C$) is not. (1 mark)

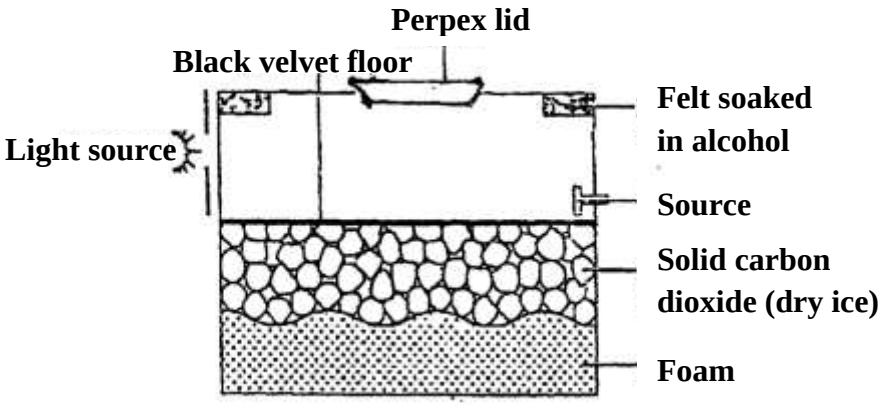
_____

_____

_____

ii) A radioactive isotope showed a count rate of 82 counts per second initially. After a time of 210 seconds, the count rate dropped by 19 counts per second. The average background count remained constant at 10 counts per second. What is the half-life of the material? (2 marks)

b) The figure below shows features of a diffusion cloud chamber used for detecting radiations from a radioactive source.



Explain how the chamber works when a radioactive particle is introduced at the source. (2 marks)

_____

_____

_____

_____

c) i) What is the purpose of solid carbon (IV) oxide. (1 mark)

_____

_____

ii) State **one** advantage of the cloud chamber over a G.M tube as a detector of radioactive radiations. (1 mark)

_____

_____

d) P-type and n-type semiconductors are made from a pure semiconductor by a process known as "doping".

i) State what is meant by doping. (1 mark)

_____

_____

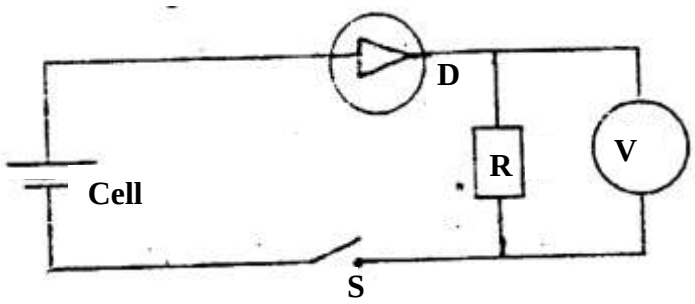
ii) Explain how the doping produces an n-type semi-conductor. (2 marks)

_____

_____

_____

e) In the circuit in the figure below, when the switch S is closed, the voltmeter shows a reading.



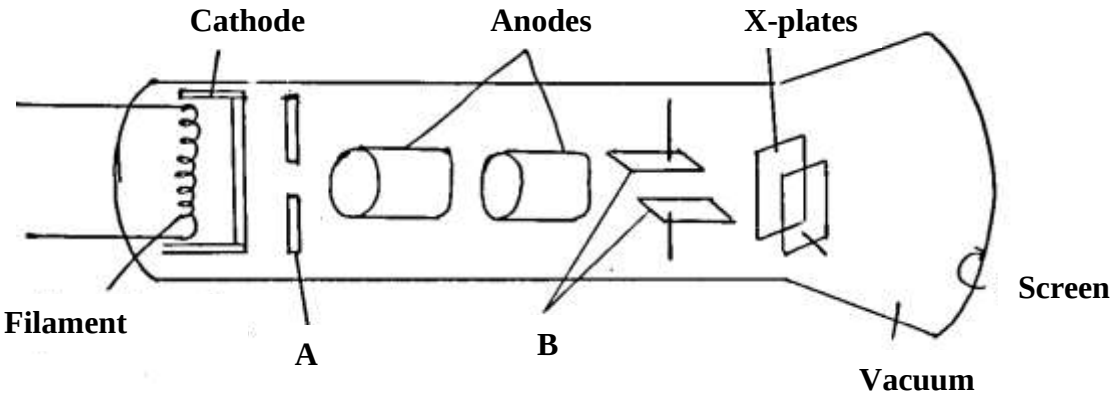
When the cell terminals are reversed and the switch is closed, the voltmeter reading is zero. Explain these observations. (2 marks)

_____

_____

_____

15. a) The figure below shows the features of a cathode ray oscilloscope;-



i) Name the parts A and B. State the role played by each of the parts A and B. (2 marks)

A _____

_____

B _____

_____

ii) Explain how electrons are produced. (2 marks)

_____

_____

_____

iii) State one factor considered when choosing the material for the cathode. (1 mark)

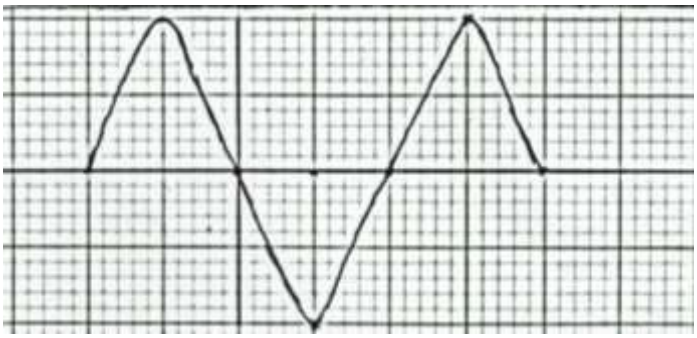
_____

_____

_____

b) The figure below shows the trace on the screen of an a.c signal connected to the y-plates of a C.R.O with time base on. Given that the time base control is 100ms/div and the y-gain

is at 120V/division.



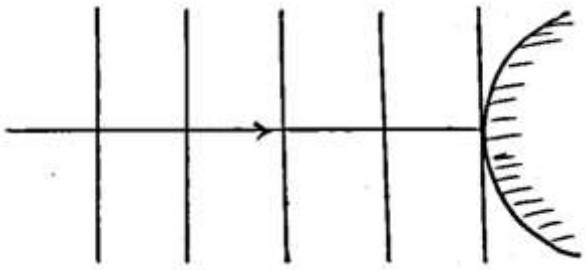
Determine:

i) The frequency of the a.c signal. (2 marks)

ii) The peak voltage of the input signal. (2 marks)

16. a) The figure below shows straight wave fronts incident on convex reflector.

Complete the diagram to show the reflected wave fronts. (1 mark)



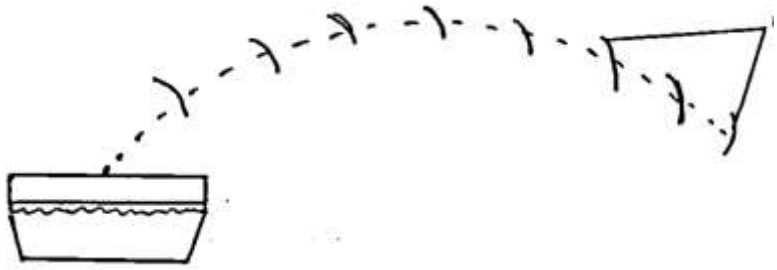
b) Narrow slits cannot be used to demonstrate interference of sound waves. Explain. (1 mark)

_____

_____

c) The figure below shows sound waves emitted by a drum struck.

Wave fronts



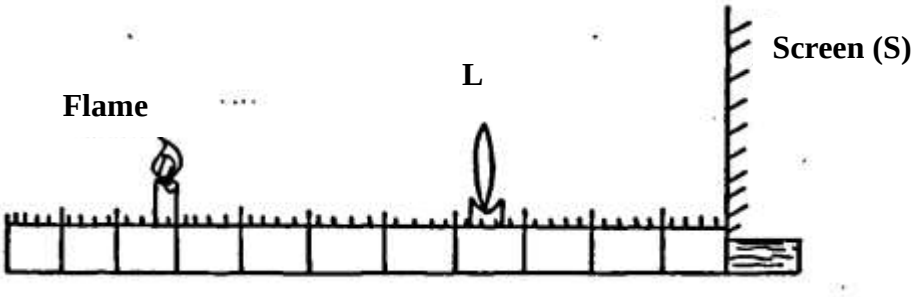
Explain why the wave fronts are directed to the ground. (2 marks)

_____

_____

_____

d) Figure below shows an experimental set up consisting of a mounted lens, I, A screens, a metre rule and a candle



i) Describe how the set up may be used to determine the focal length f, of the lens. (3 marks)

_____

_____

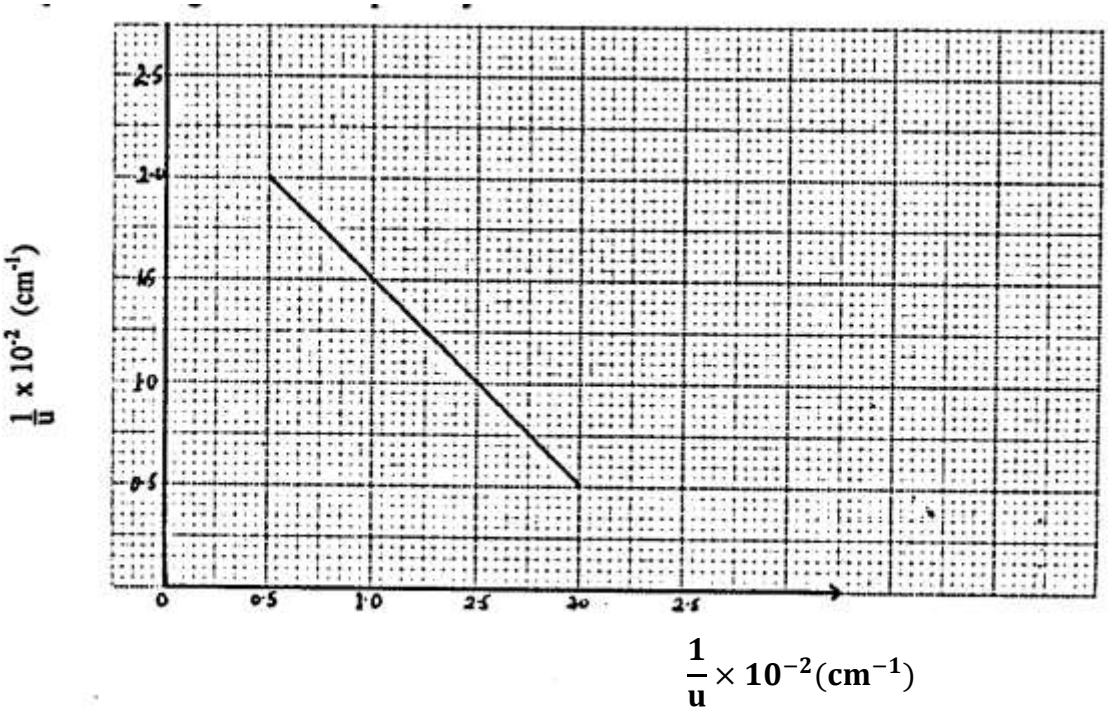
_____

ii) State why the set up would not work if the lens were replaced with a diverging lens. (1 mark)

_____

_____

e) The graph figure below shows the relationship between $\frac{1}{u}$ and $\frac{1}{v}$ for a converging lens where u and v are the object and image distances respectively.



From the graph, determine the focal length, f of the lens and its power (3 marks)

EXTRACOUNTY MOCKS

PHYSICS CONFIDENTIAL

PAPER 3

- A metre rule
- Two identical 100g masses (labelled A and B) – Liquid L , paraffin in 250ml beaker, $\frac{3}{4}$ full.
- Three pieces of thread, each 30cm long.
- Stand with clamps – Tissue paper.
- Vernier calipers (To be shared)
- Resistance wire fitted on a millimeter scale labeled MN,(Nichrome wire G=32mm)
- Switch
- Voltmeter (0-5V)
- Ammeter (0-2.5A)
- Two dry cells in a cell holder
- 8 connecting wires ,atleast 4 with crocodile clips
- Micrometer screw gauge (To be shared)
- A glass prism
- A plain sheet of paper
- A soft board
- 4 optical pins
- 4 paper pins

EXTRACOUNTY MOCKS

PHYSICS

PAPER 3

Name……. Index Number:…….……..

School……

Candidate's Signature……. Date…….....

PHYSICS
PAPER 3
TIME: 2Hours

INSTRUCTIONS TO CANDIDATES

(a) Write your Name, Index Number and Admission number in the spaces provided above.
(b) Sign and write the date of Examination in the spaces provided above.
*(c) This question paper contains **8 printed pages**.*
(d) Answer all questions in the spaces provided.
(e) You are supposed to spend the first 15 minutes of the 2½ hours allowed for this paper reading the whole paper carefully before commencing your work.
(f) Marks will be given for clear records of observations actually made, their suitability, accuracy and the use made of them.
(g) Candidates are advised to record their observations as soon as they are made.
(h) All working must be clearly shown where necessary.
(i) Mathematical tables and silent electronic calculators may be used.
(j) This paper consists of 8 printed pages. Candidates are advised to check that all pages are printed as indicated and no questions are missing.

FOR EXAMINER'S USE ONLY

Question 1	**TOTAL**
Max. Score	**20**
Candidate's Score	
Question 2	**TOTAL**
Max. Score	**20**
Candidate's Score	

GRAND TOTAL

QUESTION ONE

This question has two parts A and B. Answer all the parts

PART A

You are provided with the following:

- A metre rule
- Two identical 100g masses (labelled A and B) −

  Liquid L in 250ml beaker, $\frac{3}{4}$ full.
- Three pieces of thread, each 30cm long.
- Stand with clamps − Tissue paper.
- Vernier calipers **Proceed as follows:**

a. Take one 100g mass and measure the diameter d and height h using the Vernier calipers

d=……..m

h=……..m (1mark)

b. Determine the volume V given that $V = \pi(\frac{d}{2})^2 h$

V……m^3 (1mark)

c. Using a stand and one piece of thread, suspend the metre rule in air such that it balances horizontally. Record the position of the centre of gravity. G.

G = _____ **cm** (1mark)

NOTE: The metre rule should remain suspended at this point throughout the experiment. d. Set up the apparatus as shown in Figure 1 below;

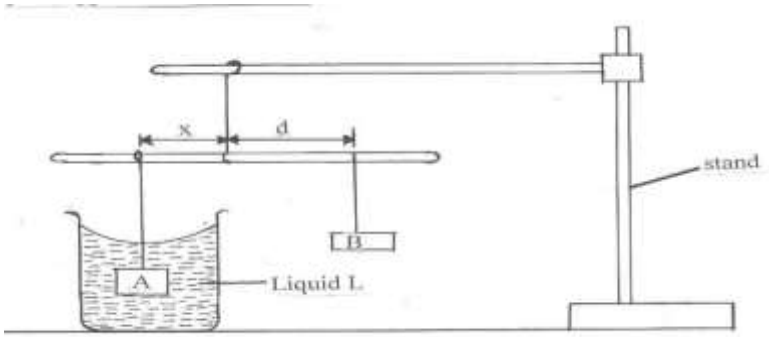


Figure 2

- Suspend the mass A at a distance x = 30cm and completely immerse it in liquid L without touching the sides of the beaker.
- Hang mass B and adjust its position such that the rule is balanced and measure the distance d cm. Tabulate your results in table 1 below;

$x\ (cm)$	30	35	40
$d\ (cm)$			
$\frac{d}{x}$			

(2marks)

e. Determine the weight F of one of the masses A or B in air. Given that

$g = 10N/Kg$ and A =B

Weight F in air =…… (1mark)

f. Using the principle of moments, determine the apparent weight P of A when completely immersed in liquid L.

Apparent weight P = …….. (2marks)

g. Find the upthrust U on A when completely immersed. (1marks)

Upthrust; U =…….

h. Determine the density of liquid L, given that;

(1mark) $\rho = \frac{Un}{V}$ ***where*** $n = 0.1Kg/N$

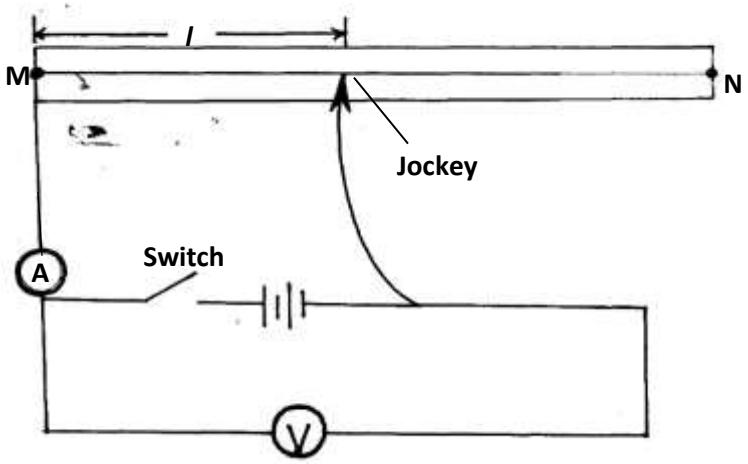
PART B

You are provided with the following apparatus:

- Resistance wire fitted on a millimeter scale labeled MN
- Switch
- Voltmeter
- Ammeter
- Two dry cells in a cell holder

- Six connecting wires
- Micrometer screw gauge

i. Set –up the apparatus as shown in the Figure 2 below;



ii. Remove the crocodile clip from the resistance wire MN and close the switch. Record the voltmeter reading $\mathbf{V_0}$.

$\mathbf{V_0}$ = ……. (1mark) iii. Attach the Jockey to the resistance wire such that $\boldsymbol{l}$ **= 50cm**

iv. Record the voltmeter and ammeter readings as $\mathbf{V_1}$ **and Z** respectively

$\mathbf{V_1}$ =……..... (1mark)

Z =…… (1mark)

v. Determine the value of **X** given that $X = \frac{V1}{z}$ (1mark)

vi. Use the equation below to determine the value of **k , where m = 2.549Ω** (2marks)

$$\frac{V_1}{V_0 - V_1} = \frac{mX}{5} + k$$

vii. Measure the diameter **d** of the of the wire on the millimeter scale using the micrometer screw gauge

d = ……mm =……m (2marks)

viii. Determine the resistivity ƒ of the wire used in this experiment given that (2marks)

$X = \frac{f'l}{A}$ QUESTION TWO

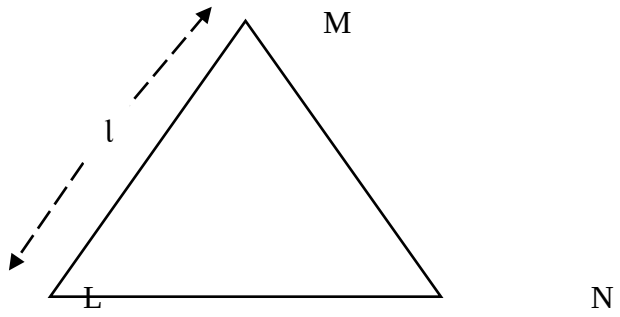
You are provided with the following apparatus

- A glass prism
- A plain sheet of paper
- A soft board
- 4 optical pins
- 4 paper pins Proceed as follows

a.

i. Firmly fix the plain sheet of paper on the soft board using the thumb pins and place the prism near the centre of the paper. Trace the outline of the prism using a pencil.

ii. Remove the prism from the outline and label the vertices of the outline AB and C as shown in Fig. 3a

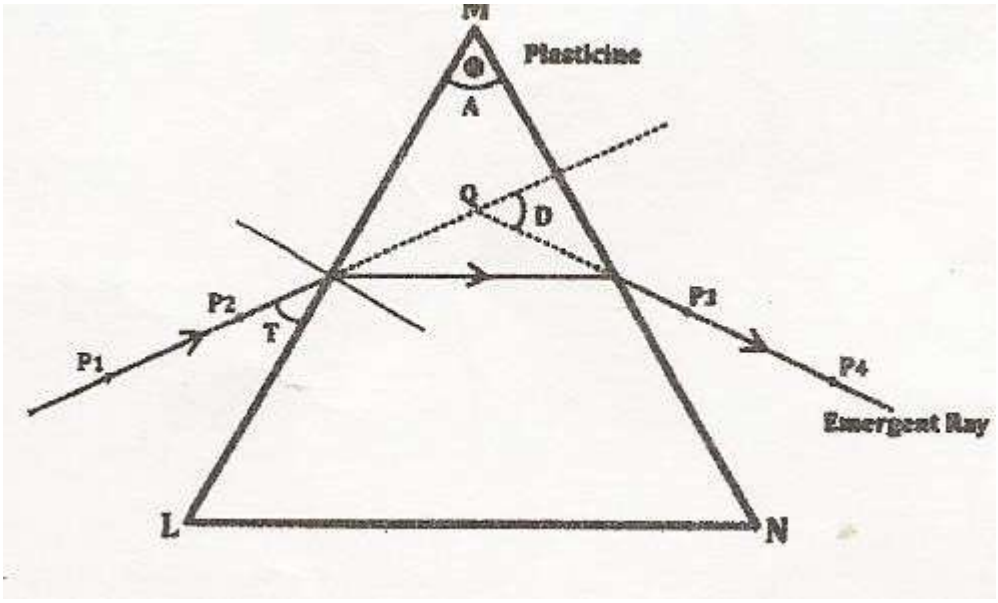


Measure Angle LMN and length l

Angle LMN…… (1mark)

Length l …… (1mark)

iii. On the side ML mark a point and draw a normal. Measure an angle T of 60° from the surface and draw a line along this angle as show in Figure 3b.



iv. Replace the prism on the outline and fix pins P_1 and P_2 on the 60° line at a distance of 3cm from each other. View the images of the pins P_1 and P_2 through side MN and fix P_3 and P_4 so that all the pins appear on one line.

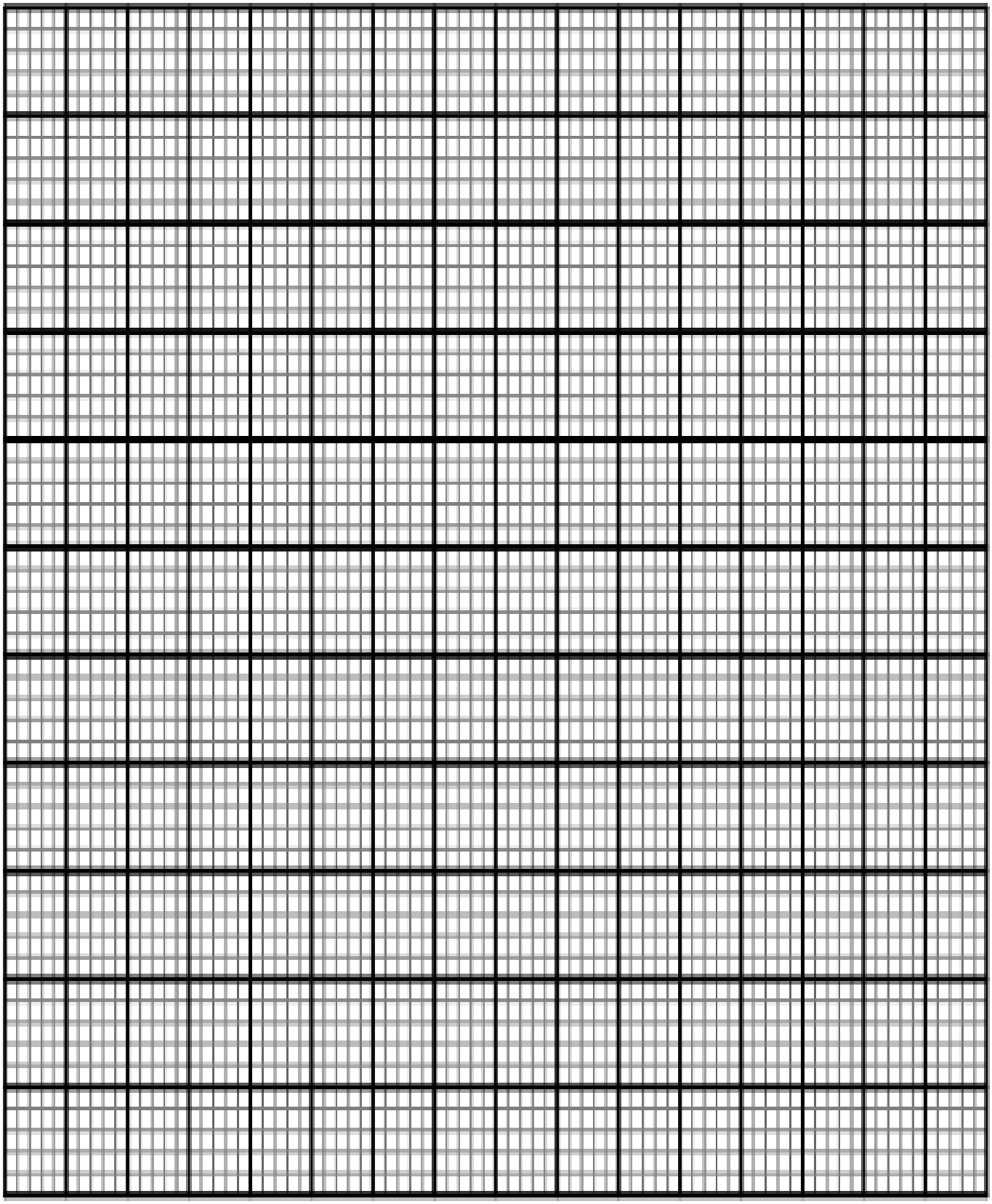
v. Remove the prism and draw a line to pass through the holes made by pins P_3 and P_4.extend the line into the outline as shown in figure 3b.Also extend the 60° line so that the two lines cross each other. Determine angle D and record it in the table below

b. Repeat the procedure and complete the table below
(6marks)

Angle T (°)	60°	50°	40°	30°	20°
Angle D(°)					
Angle I°$(90° - T)$					

c. Determine the average value D_m of D (1mark)

d. On the grid provided plot a graph of Angle D (y-axis) against Angle I (5marks)



e. Use your graph to determine the lowest value H_{min} of angle D

H_{min}……. (1mark)

f. Determine the value of I° when D° is 41° (2mark)

……

g. Determine the constant K for the glass prism from the formula
(3marks)

$$k = \frac{\sin(\frac{A + D_m}{2})}{\sin\frac{A}{2}}$$

EXTRACOUNTY MOCKS

GEOGRAPHY

PAPER 1

Name…… Adm Number: ……

Class ……

Date…….

312/1
GEOGRAPY
PAPER 1
$2\frac{3}{4}$HRS

KENYA CERTIFICATE OF SECONDARY SCHOOLS

INSTRUCTIONS TO CANDIDATES

a) This paper has two sections: A and B
b) Answer all the questions in section A.
c) Answer question 6 and any other two questions form section B.
d) All answers must be written in the answer booklet provided.
e) Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing.
f) Candidates should answer the questions in English

SECTION A:

Answer all questions in this section

1. a) What is a natural satellite? (2mks)

   b) State three effects of the spinning of the earth on its own axis . (3mks)
2. Explain three ways through which sedimentary rocks are formed. (6mks)
3. a) Define ocean water salinity. (1mk)

   b) State three sources of ocean water salt. (3mks)
4. a) Explain sandblast action of wind erosion. (2mks)

   b) State three negative effects of desert features on human activities . (3mks)
5. The diagram below shows underground features in a karst scenery.

   a) Name the features labelled i and ii (2mks)

   b) Give three importance of ground water . (3mks)

SECTION B: Answer question 6 and any other two from this section

6. Study the Map of Kijabe 1:50,000 (sheet 134/3) Provided and answer the following questions

(a) i) Calculate the latitudinal extend of the area covered by the map (2mks)

ii) Identify two human-made features found in the grid square 3501 (2mks)

iii) Measure the distance of the railway line from Nairobi to where it crosses dry weather road (3395) give your answer in Kilometres. (2mks)

(b) Draw a rectangle measuring 8cm by 6cm representing the area enclosed by easting 3 and 38 and Northing 90 and 96.

(1mk)

On the rectangle mark and label

- Railway line (1mk)
- Dry weather road (1mk)
- River upper Ewaso Kedong (1mk)
- Thicket vegetation. (1mk)

ii) Give the scale of the area you have drawn . (2mks)

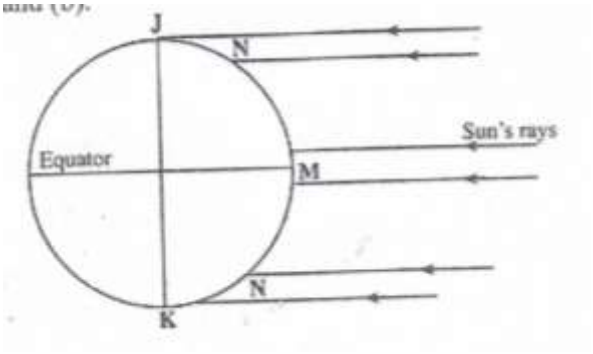
(c) Describe how relief has influenced vegetation distribution in the area covered by the map.

(6mks)

(d) Citing evidence from the map give three social services offered in the area covered by the map.

(6mks)

7. a) The diagram below shows the angles of the sun's rays at different latitudes when the sun is at the equator. Use it to answer question (a) and (b)



i) Name the parts of the earth's surface marked J and K. (2mks)

ii) Give two reasons why the intensity of the insolation is higher at M than at N.

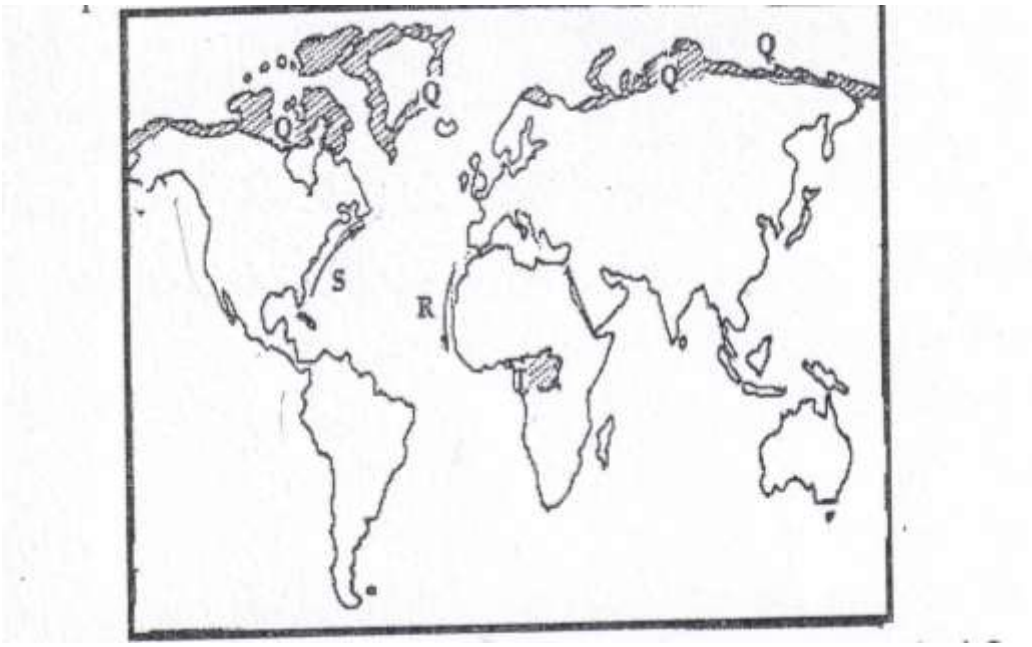
(2mks)

b) Explain how the following factors influence weather.

i) Cloud cover (3mks)

ii) Local winds (3mks)

c) Use the map below to answer questions (i) and (ii)



i) Name :

- The type of climate found in the shaded area marked Q (1mk)
- The ocean currents marked R and S (2mks)

ii) Describe the characteristics of the type of climate found in the shaded area marked T. (6mks)

d) Explain how the following factors influence climate

i) Altitude (3mks)

ii) Distance from the sea. (3mks)

8 a.i) Name two fold mountains in Africa . (2mks)

ii) Apart from fold mountains , name four other features resulting from folding. (4mks)

b) With the aid of labelled diagram, describe the formation of an over thrust fold. (5mks)

c) Explain four effects of fold mountains on human activities. (8mks)

d) Students are planning to carry out a filed study on land forms in their District.

i) State four ways in which the students would prepare themselves for the filed study. (4mks)

ii) Give two advantages of studying landforms through field work. (2mks)

9. a i) What is soil. (2mks)

ii) Name two factors that make up soil. (2mks)

b) Explain how the following factors influence the process of soil formation.

i) Parent material (3mks)

ii) Climate (3mks)

iii) Living organisms (3mks)

c.i) Differentiate between soil structure and soil texture (2mks)

ii) Identify two forms of soil floccules . (2mks)

d) State two characteristics of podzolic soils. (2mks)

e. Explain the significance of soils to human activities . (6mks)

10.a i) Distinguish between moraine and .... (2mks)

ii) Name two areas in the world where ice sheets exist today. (2mks)

b) The diagram below shows an ..... feature in a glaciated lowland . Use it to answer question (i) and (ii)

i) Identify the feature in the diagram . (1mk)

ii) Describe how the feature shown is formed . (3mks)

iii) Describe how an outwash plain is formed. (4mks)

c)Explain three ways in which glaciation influences human environment . (6mks)

d) You carried a filed study on glacial erosion on Mt. Kenya

i) Give two erosions highland features you identified . (2mks)

ii) State three challenges you faced during the field study you need a route map. (2mks)

EXTRACOUNTY MOCKS
GEOGRAPHY
PAPER 2

Name…….INDEX NO……

Date……..Signature…….

312/2
GEOGRAPHY
Paper 2
2 ¾ Hours

Instructions to candidates

- This paper has **TWO** sections **A** and **B**
- Answer **ALL** questions in sections **A**
- In section **B** answer question **six** and **any** other **two** questions
- **ALL** answers must be written in the answer sheets provided.

This paper consists of 4 printed pages
Candidates should check the question paper to ensure
that all the pages are printed as indicated and no questions are missing

SECTION A

Answer ALL questions in this section

1 (a) Apart from floods, name two other environmental hazards experienced in Kenya. (2 marks)

(b) Outline three methods used to control floods. (3 marks)

2 (a) (i) Define an anadromous fish? (1 mark)

(ii) Give an example of anadromous fish. (1 mark)

(b) Give three reasons for encouraging fish farming. (3 marks)

3 (a) State two formations in which mineral ore occur. (2 marks)

(b) Give three effects of land dereliction on the environment. (3 marks)

4 (a) Differentiate between horticulture and market gardening. (2 marks)

(b) Outline three problems facing horticulture in Kenya. (3 marks)

5 (a) List two functions of the central business district. (2 marks)

(b) State three factors that may lead to rural – urban migrations. (3marks)

SECTION B

6. Study the table below and answer the questions that follow

World production of nuclear power 2002

Continent	**Total production mw(2)**
Europe	87,467
Africa	1,840
North America	87,580
South America	1,561
Asia	62,304

(a) Using the data given above draw a pie chart of radius 3cm to represent the world production of nuclear power in 2002 (8mks)

(b) (i) Where is nuclear power derived from (1mk)

(ii) Name a country in Africa where nuclear power is produced (1mk)

(iii) State **two** uses of nuclear power (2mks)

(iv) List **two** disadvantages of nuclear power (2mks)

(c) State **three** benefits enjoyed by Egypt after the construction of the Aswan High Dam (3mks)

(d)Explain four factors have influenced the production of hydro – electric power in the United States of America (8mks)

7. (a) Name **two** counties in Kenya where maize is grown in large scale (2mks)

(b) State **four** physical conditions necessary for maize growing (4mks)

(c) Explain **four** problems experienced by maize farmers in Kenya (8mks)

(d) (i) What is the meaning of national food policy (2msk)

(ii) State **three** reasons why the national food policy was set up in 1981 (3mks)

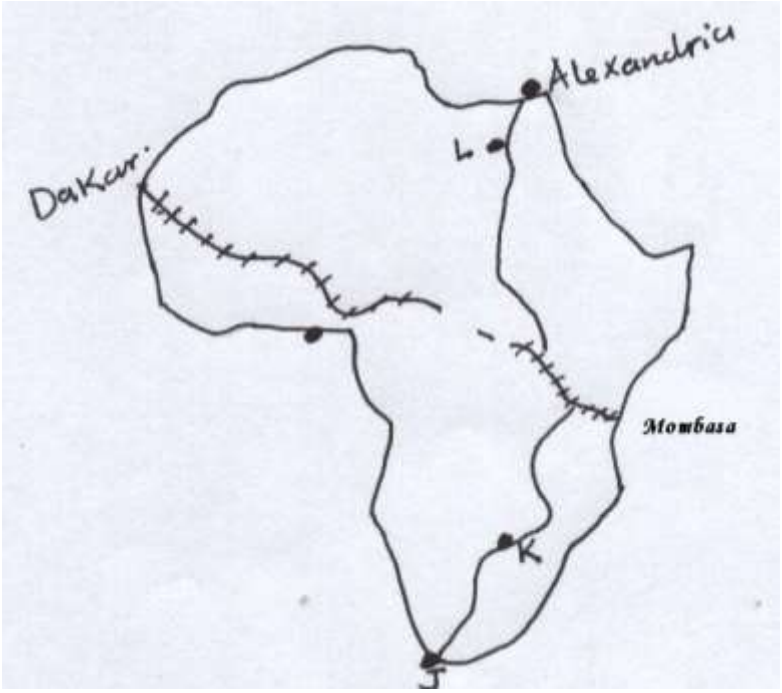
(e) (i) What are the reasons behind the shortage of maize in Kenya (3mks)

(ii) Which steps should be taken by the Kenya government to alleviate the food shortage problem. (3mks)

8. (a) (i) **Give** the **difference** between two-way road and one-way road system in Kenya. (2mks)

(ii) **Explain** four causes of road accidents on the Kenyan roads. (8mks)

(b) The map below shows the proposed Trans-Africa Railway and the great North road.



(i) **Name** the towns marked J, K, & L on the Great North Road. (3mks)

(ii) **Name three** countries where the Trans-Africa Railway line is not completed. (3mks)

(c) (i) **Give four reasons** why Railway transport is not well developed in Africa. (4mks)

(ii) **State five** roles of the St. Lawrence sea-way to the development around the great lakes. (5mks)

9. a (i) Define the term life expectancy. (2 marks)

(ii)Name three counties with low population in Kenya. (3mks)

(b) Explain how the following factors influence population distribution in Kenya.

(i) Relief. (2 marks)

(ii) Government policy. (2 marks)

(iii) Development of industries. (2 marks)

(c) Explain four efforts the Kenya Government is making to check on the high mortality rate. (8 marks)

(d) Explain three factors for the reduction of fertility rate in Kenya. (6 marks)

10. (a) Differentiate between Internal trade and International trade. (2mks)

(b) State **three** problems faced by Kenya in international trade. (3mks)

(c) (i) Identify **three** major exports from Kenya. (3mks)

(ii) Give **three** reasons why Kenya should protect her local industries. (3mks)

(d) (i) What is unfavourable balance of trade? (2mks)

(ii) Explain **three** reasons why Kenya experiences unfavourable balance of trade. (6mks)

(iii) Explain **three** measures taken by the Kenyan government to reduce her unfavourable balance of trade. (6mks)

EXTRACOUNTY MOCKS
HISTORY AND GOVERNMENT
PAPER 1

NAME …….ADM NO……..

Class…….Date ……Sign……

311/1

HISTORY & GOVERNMENT
PAPER 1
TIME: 2 ½ HOURS

INSTRUCTIONS TO CANDIDATES:-

- This paper consists of **three** sections; **A, B, & C**
- Answer ***all*** questions in section **A**, ***three*** questions in section **B** and any ***two*** questions in section **C**.
- Answers to all questions **must** be written in the separate sheets provided.

SECTIONS	**A**	**B**	**C**
QUESTIONS	**1-17**	**18-21**	**22-24**
MARKS			

Answer all questions in this section(25MKS)

1. State **two** disadvantages of Archaeology as a source of information on History and Government of Kenya. (2mks)
2. Name **two** communities that belong to the Western Bantu speakers of Kenya. (2mks)
3. State **two** ways through which iron technology assisted in the migration and settlement of the Bantu in Kenya. (2mks)
4. Why did Seyyid Said move his capital from Muscat to Zanzibar? (2mks)
5. Identify **two** communities that showed mixed reactions towards the British as they occupied Kenya. (2mks)
6. Who was the first representative of the Africans in the legislative council during colonial period? (1mk)
7. What made the East African Association different from the other early associations that were formed in Kenya during colonial period? (1mk)
8. Identify **two** Educational Associations that were formed in central Kenya during the colonial period. (2mks)
9. State **one** role played by the Africans in the field of medicine during colonial period. (1mk)
10. Why did KANU **refuse** to form a government after the 1961 elections in Kenya? (1mk)
11. Name the central **oathing** committee that was set up to coordinate oathing activities of the Mau Mau freedom fighters. (1mk)
12. Identify **one** type of citizenship in Kenya. (1mk)
13. Which body **supervises** the electoral process in Kenya? (1mk)
14. What is meant by **devolution** of power in Kenya? (2 mks)
15. what are the roles of director of public prosecution in Kenya (2 marks)
16. Give **one** achievement of the Local Native Councils formed in Kenya in 1924. (1mk)
17. What is promulgation of a constitution? (1mk)

SECTION B. (45 MARKS)

Answer any three questions in this section.

18 (a) Identify **FIVE** features of early inhabitants in kenya (5mks)

(b) Explain any **five** results of interaction between the Luos and the Luhya's during the pre-colonial period. (10mks)

19(a) State **five** reasons why the Omani Arabs were interested in establishing control over the Kenyan Coast in the 18th Century. (5mks)

(b) Explain **five** ways in which Seyyid Said contributed towards the development of international trade along the Kenyan Coast in the 19th Century. (10 marks)

20 (a) State **Five** Reforms That Resulted From The Lyttelton Constitution Of 1954 In Kenya. (5mks)

(b) Discuss **five** ways through which Thomas Joseph Mboya Contributed to the struggle

for independence in Kenya. (10mks)

21 (a) State **five** reasons why the Wanga community collaborated with the British. (5mks)

(b) Explain **five** terms of the Devonshire white paper of 1923. (10mks)

SECTION C (30marks)

Answer any TWO questions from this section on the answer sheets provided.

22(a) **State Three** reasons why national unity is important. (3marks)

(b) **Explain six** ways in which the government of Kenya has tried to promote national integration since independence. (12 marks)

23(a) **Describe** the process of preparing a bill before it is taken to parliament for debate. (3mks)

(b) **Explain six** ways in which the Bill of Rights protects the rights of individuals in Kenya. (12 marks)

24(a) **Identify three** committees developed in parliament to ensure that government revenue is spent well. (3 marks)

(b) **Explain six** challenges faced in planning the national budget in Kenya today. (12 marks)

EXTRACOUNTY MOCKS

HISTORY AND GOVERNMENT

PAPER 2

NAME…… ADM NO…… CLASS……..

311/2

HISTORY AND GOVERNMENT

PAPER 2

TIME: 2 ½ HOURS

INSTRUCTIONS :

- This paper consists of **three** sections **A, B** and **C.**
- Answer **all** questions in section **A, three** questions from section **B** , and **two** questions from section **C**

For Examiner's Use Only

Sections	A	B				C			Total Score
Questions	1 – 17	18	19	20	21	22	23	24	
Marks									

SECTION A - 25 MARKS

Answer all the questions from this section

1. State TWO advantages of written materials as a source of History and Government.(2mks)
2. State ONE theory that explain the origin of early people. (1mk)
3. Identify TWO aspects of the culture of the early man that had their origins in the Late Stone Age. (2mks)
4. State TWO advantages of barter as a method of exchange in the Trans-Saharan trade (2mks)
5. Identify the MAIN commodity from Africa in the Trans-Atlantic trade. (1mk)
6. Identify ONE way in which in which the invention of the wheel promoted early transport . (1mk)
7. State TWO advantages of the telephone as a means of communication (2mks)
8. Give the MAIN reason why the trade union movements were formed in European during the nineteenth century. (1mk)
9. Give ONE importance of the Odwira Festival in the ancient kingdom of Ashanti. (1mk)
10. Name TWO symbols of unity in the Buganda Kingdom during the pre-colonial period.(2mks)
11. Give TWO functions of chiefs in Zimbabwe during the colonial period. (2mks)
12. Define assimilation as a policy that was used by the French to administer their colonies in Africa. (1mk)
13. Identify ONE role that the Convention Peoples' Party (CPP) played in the struggle for independence (1mk)
14. Name TWO political parties that fought for independence in South Africa. (2mks)
15. Give the main reason for the failure of the League of Nations. (1mk)
16. Name ONE agency of the United Nations organization (UNO) which deals with the problem of health. (2mks)
17. State one advantages of being a member of the Commonwealth organization. (1mks)

SECTION B (45 MKS)

Answer any three questions from this section

18. (a) Give THREE factors which influence early man to begin domesticating animals.(3mks)
    (b) Explain six advantages of land tenure system in Britain. (12mks)
19. (a) Identify THREE scientific inventions of the twentieth century which have led to a reduction in death rates. (3mks)
    (b) Explain SIX effects of scientific inventions on agricultural development in Europe during the 19th Century. (12mks)
20. a) State three factors which influence the growth of Athens. (3mks)
    b) Explain six consequences of urbanization on European communities during the 19th Century. (12mks)
21. a) Give three reasons why Samori Toure resisted French colonization in West Africa. (3mks)
    b) Explain six factors which enabled Samori Toure to resist French colonization for a long period in West Africa between 1882 and 1898. (12mks)

SECTION C : 30 MKS

Answer any two questions from this section

22.a) Outline FIVE reasons why the Economic Community of west Africa states was formed . (5mks)

b) Discuss five factors that undermined the activities of the Organization of African unity (OAU) (10mks)

23. a) Give five reasons why there were civil wars in the Democratic Republic of Congo (DRC) soon after independence. (5mks)

b) Explain five economic challenges which Tanzania has faced since independence. (10mks)

24. a) State five functions of the President of the United States of America (USA) (5mks)

b) Explain how the system of government of the United States of America (USA) works. (10mks)

EXTRACOUNTY MOCKS

CRE

PAPER 1

***NAME*_____*CLASS*_____*ADM*_____**

313/1

CHRISTIAN RELIGIOUS EDUCATION

Paper 1

Time: 2 ½ Hours

Kenya Certificate of Secondary Education (K.C.S.E)

INSTRUCTIONS TO CANDIDATES

a. *Write your **name** and **index number** in the spaces provided.*
b. *This paper has **six** questions, answer any **five** questions.*
c. *Candidates should check the question paper to ascertain that both pages are*
d. *Printed as indicated and that no questions are missing.*

FOR EXAMINERS USE ONLY

QUESTION	1	2	3	4	5	6
SCORE						

TOTAL SCORE

This paper consists of 2 printed pages. Candidates should check the question paper to ascertain that both pages are printed as indicated and that no questions are missing.

1a) Explain 7 responsibilities given to human beings in the biblical creation accounts.(7 Marks)

b) What are the differences between the biblical creation story and the traditional African Myths of` origin? (8 Marks)

c) Give 5 ways in which human beings have refused to take up the responsibilities given to them by God. (5mks)

2a) Describe instructions given to Abraham and his descendants concerning circumcision Genesis 17:1-16 (7 Marks)

(b) Give seven reasons why Abraham's circumcision to his descendants is important.(7Marks)

(c) State six differences between the Jewish circumcision and the traditional African Practice. (6 mks)

3a) King Jeroboam made Israelites in the Northern Kingdom turn away from God. Explain this statement (7 Marks)

b) Outline the reasons that led to idolatry in Israel. (6 Marks)

c) What are the causes of power struggle in churches in Kenya today? (7 Marks)

4.(a) Give similarities between prophets in the Old Testament and traditional African communities (8 mks)

(b) Outline five teachings of prophets Amos the remnant and restoration of the Israelites (Amos 9: 8 – 15) (5 mks)

(c) State the relevance of Prophet Amos teaching on election of Israel to Christians in Kenya today (7 mks)

5.(a)Describe the fall of Jerusalem and the exile of the Israelites. (8 marks)

(b)What did the Jews promise before Ezra the priest during the renewal of the Covenant? (7 marks)

(c)Identify five ways in which Christians observe the day of worship. (5 marks)

6. a) Outline the teachings on Meaning of Life and its wholeness in the Traditional African society. (5mks)
b) Explain examples of African moral values.. (7mks)
c) State changes that are taking place in Traditional African community. (7mks)

EXTRACOUNTY MOCKS
CRE
PAPER 2

NAME: ..... ADM NO: .....

CANDIDATE'S SIGNATURE: ..... DATE:.....

313/2

CHRISTIAN RELIGIOUS EDUCATION

PAPER 2

2 ½ HOURS

Instructions to candidates

a. Write your name and admission number in the spaces provided
b. Sign and write the date of the examination in the spaces provided
c. This paper consists of **six** questions
d. Answer any **five** questions in the spaces provided
e. Each question carries **20** marks
f. This paper consists of two printed pages
g. Candidates should check to ascertain that all the pages are printed as indicated and that no questions are missing.

Q1	Q2	Q3	Q4	Q5	Q6	TOTAL

1. a) Outline Isaiah‟s prophecy concerning the Messiah according to Isaiah 61:1-2 (6mks)
b) State the similarities between the Magnificat and the Benedictus. (6mks)
c) In what ways do Christians express their gratitude to God? (8mks)

2. a. Describe the incident when Jesus healed the paralytic in Luke 5:17-25. (8 marks)
b. With reference to the parables of Jesus in St. Luke‟s Gospel, explain the teachings about the kingdom of God. (6 marks)
c. List down six methods that Jesus used to spread the gospel. (6 marks)

3. a. Outline Jesus‟ teaching on watchfulness and readiness in Luke 12:35 - 48? (7 marks)
b. Identify seven reasons why Jesus was in conflict with the Jewish Religious Leaders in Luke (7 marks) 20:1-21+:-4
19 : 28 - 21; 1 - 4.
c. How do Christians prepare themselves for the second coming of Jesus Christ? (6 marks

4. a) Identify seven characteristics of love according to St. Paul in (1 cor. 13) (8mks)
b) Explain the teaching of Peter concerning the people of God (1peter2: 9 – 10) (7mks)
c) State five causes of disunity in the churches in Kenya. (5mks)

5. a) Explain the traditional African teachings on work. (7mks)
b) State seven functions of professional codes of ethics. (7mks)
c) Give six ways in which a Christian can help to reduce the rate of unemployment in Kenya today. (6mks

6. a) Explain seven ways in which social injustice can disrupt peace in the society. (7mks)
b) What are the effects of money economy to traditional African society. (6mks)
c) Give seven reasons why Christians should respect the law of the country. (7mks

EXTRACOUNTY MOCKS
BUSINESS
PAPER 1

Name:…… **ADM. No:**……

CLASS:…… **SCHOOL:**……

565/1
BUSINESS STUDIES
PAPER 1
2HOURS

Instructions to candidates

a) Write your name and school in the spaces provided above.
b) Answer all questions
c) All answers should be written in the spaces provided in this booklet
d) This paper consists of **9** printed pages.
e) Candidates should check the question paper to ascertain that all the pages are printed as indicated and no questions are missing.
f) Candidates should answer the questions in English.

For Teacher's Use Only

Question	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
Marks													

Question	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**
Marks												

TOTAL MARKS	

1. State **four** reasons that would make an individual to engage in business. (4mks)

(a) ……

(b) ……

(c) ……

(d) ……

2. Highlight **four** circumstances that can lead to creation of a monopoly. (4mks)

(a) ……

(b) ……

(c) ……

(d) ……

3. Outline **four** differences between insurance and assurance. (4mks)

	Insurance	**Assurance**
a		
b		
c		
d		

4. Outline **four** benefits to a business that uses its own warehouse. (4mks)

(a) ……

(b) ……

(c) ……

(d) ……

5. With an aid of a diagram, illustrate a change in equilibrium points following a decrease in demand. (4mks)

6. State **four** circumstances under which firms would form a cartel. (4mks)

(a) …….

(b) …….

(c) …….

(d) …….

7. Highlight **four** measures that a government may take to reduce the mortality rate in a country. (4mks)

(a) …….

(b) …….

(c) …….

(d) …….

8. In the recent past, the Kenyan government has been privatizing its state businesses. State **four** reasons for doing this. (4mks)

(a) ……

(b) ……

(c) ……

(d) ……

9. Highlight **three** challenges that a person may encounter when using a mobile phone (3mks)

(a) ……

(b) ……

(c) ……

10. Highlight **four** ways in which a business idea can be implemented. (4mks)

(a) ……

(b) ……

(c) ……

(d) ……

11. Outline **four** assumptions that would make circular flow of income in a two sector economy to hold.

(a) ……

(b) ……

(c) ……

(d) ……

12. On 1st January 2009, Kerubo Traders had Shs. 8,000.00 in cash and Shs. 70,000.00 at bank. During the month, the following transactions took place:

January

08: Paid Onsarigo Traders Shs. 15,000.00 by cheque and was givenShs.1,000.00 cash discount.
12: Sold goods for Shs. 24,000.00 cash and gave 5% discount
31: Banked all the cash except Shs. 5,200.00

Enter the above transactions in cash book and balance it off. (5mks)

13. List **four** levels of inflation. (4mks)

(a) ……

(b) ……

(c) ……

(d) ……

14. State **four** ways that may be used to control the amount of money in circulation by the Central Bank of Kenya. (4mks)

(a) ……

(b) ……

(c) ……

(d) ……

15. Outline **four** characteristics of a good tax system. (4mks)

(a) ……

(b) ……

(c) ……

(d) ……

16. State **four** reasons why food is considered a basic want. (4mks)

(a) ……

(b) ……

(c) ……

(d) ……

17. The following information was extracted from the books of Toboso Traders on 30th June 2021

Stock on January 1st 2009	Shs. 60,000.00
Stock on December 31st 2009	Shs. 30,000.00
Expenses	Shs. 35,000.00
Sales	Shs. 450,000.00
Margin	25%

Calculate:

(i) Purchases for the year (2mks)

(ii) Net profit for the year (2mks)

18. Give **four** current trends in product promotion. (4mks)

(a) ……

(b) ……

(c) ……

(d) ……

19. Name the ledger in which the following accounts are maintained. (4mks)

	Account	**Ledger**
a	Yabasa(a debtor) a/c	
b	Machines a/c	
c	Rent a/c	
d	Capital a/c	

20. Highlight **four** benefits that would accrue to a firm located near other existing firms. (4mks)

(a) ……

(b) ……

(c) ……

(d) ……

21. List **four** ways though which the government may create a condusive environment for business operations. (4mks)

(a) ……

(b) ……

(c) ……

(d) ……

22. The following information was extracted from the records of Arti Traders for the month of January 2020.

2010

Jan 02 : Bought a motor car on credit from Nyakweba Enterprises worth Shs. 23,000.00

05 : Sold an typewriter to Shon Traders on credit worth Shs. 40,000.00

08 : Sold old furniture whose book value was Shs. 20,000.00 on credit to Banderas Traders.

Required: Prepare the relevant book of original entry. (4mks)

23. State **four** ways in which the balance of payment of a country may be improved. (4mks)

(a) …….

(b) …….

(c) …….

(d) …….

24. Customers to the offices of Fanisi Enterprises have been complaining of lack of etiquette from the secretaries. Highlight **four** measures that the secretaries can take to improve the office etiquette. (4mks)

(a) …….

(b) …….

(c) ……

(d) ……

25. Highlight **four** indicators of economic growth that may be observed as a country progresses. (4mks)

(a) ……

(b) ……

(c) ……

(d) ……

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EXTRACOUNTY MOCKS
BUSINESS
PAPER 2

Name…….ADM NO……Class……

565/2

BUSINESS STUDIES

Paper 2

Kenya Certificate of Secondary Education

2 Hours 30 Minutes.

Instructions to Candidates

a) This paper consists of **six** questions
b) Answer any **five** questions.
c) Write your answers in the answer booklet provided
d) All questions carry equal marks

QUESTION	1	2	3	4	5	6	**TOTAL**
SCORE							

1. a) Explain five benefits that will accrue to a member of a savings and credit cooperative society (SACCO) (10mks)

b) Explain five methods being used by the Kenya government to create an enabling environment for investment locally (10mks)

2. a) Explain five benefits that customers are enjoying as a result of the current changes taking place in the banking sector. (10mks)

b) On 1st October 2013, MAMBO Traders had shs.10, 000 cash and shs.40, 000 at the bank. During the month, the following transactions took place.

Oct 2 Bought goods worth shs3, 100 by cheque
3 Paid motor expenses shs.6000 in cash
6 Sold goods worth 8200 cash
10 Paid a creditor shs.9500 by cheque after deducting a 5% cash discount
12 Received a commission of shs.580 directly into the bank account.
14 Shelby, a debtor, settled her account of shs.30, 000 by cheque less a 2.5% cash discount
15 The bank deducted shs. 850 from the business account for services rendered
19 The owner took shs.1500 by cheque for personal use
23 Maboko traders settled their account of shs.39, 200 by cheque less 3% cash discount
24 Withdrew shs.15, 000 from bank for business use
26 Received a cheque shs.8, 200 from a debtor in full settlement of a debt of shs.8, 500
30 Took all the cash to the bank leaving only shs.1800 in the cash till

Required:
Prepare a duly balanced three column cash book (10mks)

3. a) Describe the procedure followed in seeking compensation from the insurance company. (10mks)

b) a) Explain **five** features that differentiate a perfect competitive market from a monopoly market structure. (10mks)

4. a) Despite announcement by the government that the country has achieved 6% economic growth this has not been translated to economic development. Discuss **five** indicators of underdevelopment currently being experienced in Kenya. (10 mks)

b) Explain **five** principles of an efficient tax system. (10 mks)

5.a) Explain **five** circumstances under which a high population growth may be desirable to a country. (10 mks)

b) Explain any **five** negative effects of inflation in an economy. (10 mks)

6.a) Explain five benefits that a country derives from transporting oil through pipeline. (10mks)

b) Mama Ntilie shop sells all its goods at a margin of 20 % for the year ended 30th April 2006; The trading activities were as follows;

Purchases	Shs. 800,000
Sales	Shs 950,000
Net profit	5 % of sales
Closing stock	Shs 200,000

Calculate;

(i) The gross profit

(ii) The opening stock

(iii) The mark-up percentage

(iv) The net profit. (10mks)

EXTRACOUNTY MOCKS

AGRICULTURE

PAPER 1

Name……..……. Index Number:…….…….....

School ……

Candidate's Signature……. Date……...……...

AGRICULTURE

PAPER 1

TIME: 2Hours

INSTRUCTIONS TO CANDIDATES:

- *Write your name and index number in the spaces provided above.*
- *Sign and write the date of examination in the spaces provided above.*
- *This paper consists of three sections A, B and C.*
- *Answer all the questions in section A and B.*
- *Answer any two questions in section C.*
- *All answers should be written in the spaces provided.*
- *This paper consists of 11 printed pages.*
- *Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.*
- *Candidates should answer all the questions in English.*

For Examiner's Use Only:

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1-17	30	
B	18-21	20	
C		20	
		20	
	TOTAL SCORE	**90**	

SECTION A (30 MARKS)

1. State **two** benefits of optimum soil temperature in crop production (1 mark)

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2. Name **three** branches of horticulture. $(1\frac{1}{2} mks)$

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3. State **four** factors a farmer should consider when choosing the farming system to undertake.

   (2marks)

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4. List **four** methods of farming (2marks)

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5. Give **four** pieces of information found on a delivery note. (2marks)

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6. State **four** reasons for deep ploughing during land preparation. (2marks)

7. Give **four** soil factors that influence soil productivity. (2 marks)

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8. Give **three** factors affecting elasticity of demand $(1\frac{1}{2}mks)$

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9. Differentiate between seed inoculation and seed dressing. (1mark)

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10. State **four** effects of soil erosion. (2marks)

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11. Outline **four** practices necessary to improve and maintain permanent pastures. (2marks)

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12. State **four** factors that affect the rooting of cuttings in tea and sugar cane. (2 marks)

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13. State **four** reasons for mulching. (2 marks)

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14. Give the function of each of the following in the preparation of compost manure. (2marks)

a) Top soil

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b) Well rotten manure

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c) A thin layer of wood ash

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d) Long pointed stick

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15. State **four** deficiency symptoms of phosphorus. (2 marks)

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16. State **four** characteristics of nitrogenous fertilizers. (2 marks)

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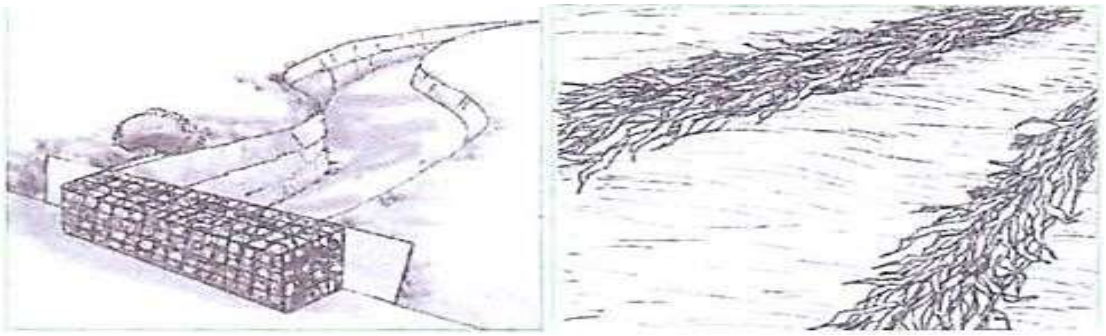
17. Give **two** reasons why root pruning is done in the nursery management in agro forestry. (1 mark)

SECTION B (20 MARKS)

18. The illustrations labelled A and B show some farm structures used in soil and water conservation. Study them carefully and answer the questions that follow.



A B

a) Identify structures A and B. (1 mark)

A…….

B…….

b) Name the type of soil erosion controlled by structures A and B. (2 marks)

A…….

B…….

c) State **two** ways in which the structures help to control soil erosion. (2 marks)

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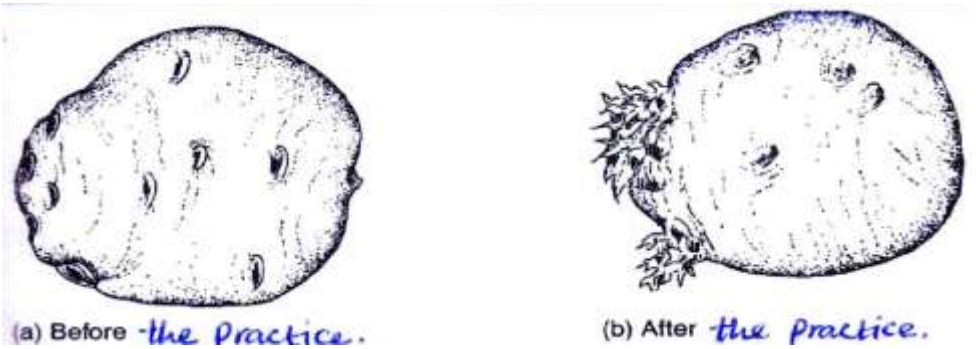
19. The diagrams below illustrate irish potato seed preparation before planting. Study it carefully and answer the questions that follow.



(a) Before the Practice.

(b) After the Practice.

a) Name the practice used in preparing the seed potato above before planting. (1 mark)

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b) Describe the procedure followed in preparing the seed potatoes for planting. (3 marks)

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c) Give **one** reason for carrying out the practice named above. (1 mark)

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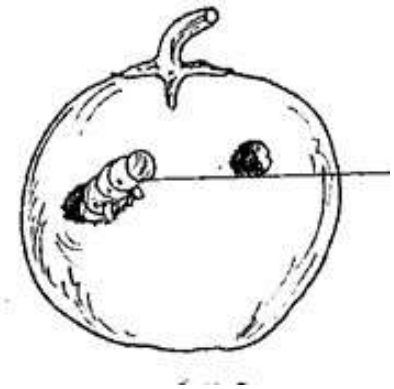
20. The diagram below shows a tomato fruit affected by a pest. Study it carefully then answer the questions that follow.

P



a) Identify the pest labeled **P** (1 mark)

……

b) State **one** method used to control the pest. (1 mark)

……

……

c) State any **three** factors to consider when selecting tomato fruits for marketing. (3 marks)

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21. The photographs below show common weeds C and D in pasture land. Study them carefully and answer the questions that follow.

C 

D 

a) Identify weeds C and D. (2 marks)

C…….

D…….

b) Classify weed D according to plant morphology. (1 mark)

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……

c) State the major problem posed by each of the weeds above in pasture land. (2 marks)

C…….

D…….

SECTION C (40MARKS)

22. a) State **five** benefits of sowing annual crops early. (5marks)

b) Describe **eight** effects of fragmentation and sub division of land. (8marks)

c) Explain how government policies affect agricultural production. (7 marks)

23. a) Describe the various field management practices for tomatoes. (8marks)

b) State the precautions that should be observed when harvesting cotton. (4marks)

c) Explain **four** importance of crop rotation. (8marks)

24. a) Explain **four** factors to consider in choosing the type of irrigation to use in the farm. (8marks) b)

Explain **five** farming practices that destroy soil structure. (5marks)

c) Describe **seven** reasons why farmers need to keep good farm records. (7marks)

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EXTRACOUNTY MOCKS

AGRICULTURE

PAPER 2

NAME…… ADM NO……CLASS……

STREAM…… DATE ……

SIGN .....

443/2
AGRICULTURE
PAPER 2
TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

- *Write **your name** and **Index number** and **sign** in the spaces provided above.*
- *Answer **ALL** the questions in section **A** and **B** in the spaces provided in this booklet.*
- *Answer **any two** questions in section **C** in the spaces provided after the last question.*

For Examiner's Use Only:

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1-18	30	
B	19-21	20	
C	22-24	40	
	TOTAL	**90**	

SECTION A (30MARKS)

Answer all the questions in this section.

1. State **two** reasons of using farm tools and equipment in the farm. (2mks)

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2. State **three** reasons that would make a farmer prefer to keep indigenous cattle breeds instead of exotic cattle breeds. (1½mks)

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3. State **three** characteristics of Bactrian (*Camelus bacterianus)* type of camel. (1½mks)

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4. Name **four** factors that influence the pulse rate in farm animals. (2mks)

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5. State **three** symptoms of endoparasites attack in livestock. (1½mks)

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6. State **four** factors that determine the amount of food given to an animal. (2mks)

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7. Name **three** advantages of using a machakos dip as compared to a plunge dip (1½mks)

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8. State **four** factors considered when selecting construction materials. (2mks)

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9. Name **three** methods a farmer can use when selecting livestock for breeding in the farm. (1½mks)

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10. State **three** signs of heat in a doe. (1½mks)

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11. State **four** reasons for carrying out identification in livestock. (2mks)

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12. State **two** diseases that commonly affect bees in bee farming. (2mks)

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13. State **four** methods a farmer can use when preserving fish after harvesting. (2mks)

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14. State **four** factors that determine the choice of poultry rearing system that a farmer chooses to use. (2mks)

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15. State **one** advantage of using mobile calf pen in calf rearing. (1mk)

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16. State **two** disadvantages of a two stroke engine. (1mk)

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17. State **two** factors that could cause sudden stopping of a tractor engine. (1mk)

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18. State **four** disadvantages of animal drawn implements over tractor drawn implements. (2mks)

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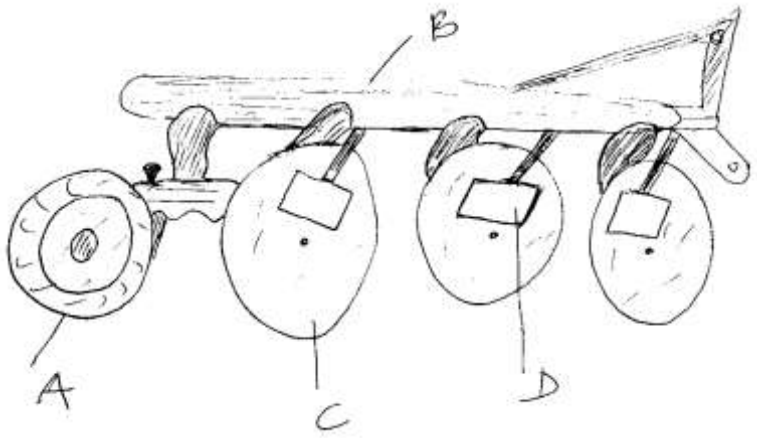
SECTION B (20MARKS)

Answer all questions in this section.

19. The diagram below shows a tractor drawn implement. Study it and answer the questions that follow.



a) Name the parts A, B, C and D. (4mks)

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b) State **two** advantages of using the above implement over mould- board plough. (2mks)

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c) State the function of the parts labeled. (2mks)

i) A

……..

ii) D

……..

20. The diagram below shows livestock parasites. Study the diagrams and answer the questions that follow.

X

Y

a) Identify the parasites X and Y above. (2mks)

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b) State **two** effects that are caused by the parasite labeled X on the animal's body. (2mks)

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c) Name **one** disease transmitted by parasite labeled X above. (1mk)

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d) State **three** measures taken to control the parasite labeled Y above. (3mks)

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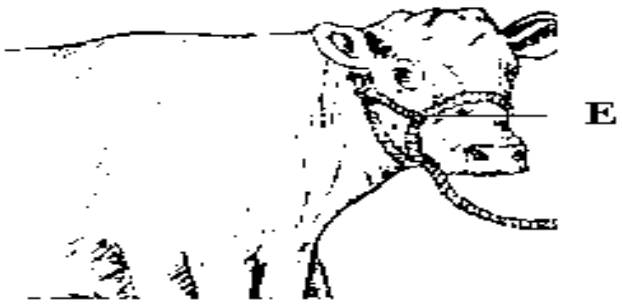
21. Study the diagram below and answer the questions that follow.



a) Identify the livestock equipment marked E above. (1mk)

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b) State **three** reasons that make branding be discouraged as a method of livestock identification. (3mk)

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c) What is caponisation as used in poultry production. (1mk)

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SECTION C (40 MARKS)

Answer any two questions.

22. a) State and explain **five** factors that predispose livestock to diseases. (10mks)

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b) State and explain **five** factors a farmer will consider when siting beehives in the farm. (10mks)

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23. a) Briefly state and explain **five** equipment a farmer will need when milking and state their uses. (10mks)

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b) Explain **five** factors to consider when selecting a breeding stock. (10mks)

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24. a) State and explain **four** materials collected by bees. (8mks)

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b) State and explain the use of **four** equipments a honey harvester would require to have when harvesting honey. (8mks)

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c) List **four** main reasons that make fish farming popular. (4mks)

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